From:	Elliott, George			<b>t</b> .
Sent: To:	Tuesday, July 22, 200 STIC-Biotech/ChemL	)3 3:57 PM ib	4	•
Cc:	Spector, Lorraine			1 . 1/
Subject:	FW: RUSH SEARCH	request for Serial No. 09/	546857	10811
Importance:	High			1219
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Fr m: Sent:	Spector, Lorraine Tuesday, July 22, 2003 3:51 PM		Ì	
To:	Elliott, George		, in the second	*
Subject: Imp rtance:	RUSH SEARCH request for Serial No. 09/5 High	546857		•
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George,				-
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Date Picked Up:		AA Sequences: 7		Questel/Orbit:
Searcher Prep/Rev Clerical:	iew: 14 Completed B	Sibliographic: Litigation:	•	DRLink: Lexis/Nexis:
Online time:	37 7124 1	Full text:	•	Sequence Sys.: Conf
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TYPE OF SEARCH:
NA Sequences:
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Bibliographic:
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Other:

VENDOR/COST (where applic.)
STN:
DIALOG:
Questel/Orbit:
DRLink:
Lexis/Nexis:
Sequence Sys.:
WWW/Internet:
Other (specify):

Pending Nucleic Acid and/or Pending Amino Acid database searches now generate two sets of results. These databases were split into to two parts to reduce the time needed to update the databases daily. The split freed up more machine time for processing searches.

Searches run against the Nucleic Acid Pending database produce two sets of results, with the extensions, .rnpm and .rnpn
Searches run against the Amino Acid Pending database produce two sets of results, with the extensions, .rapm and .rapn

The Pending database search results should not be left in the case because they contain data that is confidential.

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GenCore version 5.1.6
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OM protein - pr	OM protein - protein search, using sw model
Run on:	July 24, 2003, 14:47:39 : Search time 27.1765 Seconds (without alignments) 61.179 Million cell updates/sec
Title: Perfect score: Sequence:	PEP1 78 1 CNSEMRECVPTEES 14
Scoring table:	BLOSUM62 Gapop 10.0 , Gapext 0.5
Searched:	451899 seqs, 118759770 résidues
Total number of	Total number of hits satisfying chosen parameters: 451899
Minimum DB seq length: 0 Maximum DB seq length: 2	seq length: 0 seq length: 2000000000
Post-processing	Post-processing: Minimum Match 0% Maximum Match 100%

Listing first 45 summaries
Database : Published\_Applications\_AA:\*
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2: /cgn2\_6/ptodata/2/pubpaa/US07\_NEW\_PU
2: /cgn2\_6/ptodata/2/pubpaa/PCT\_NEW\_PU
2: /cgn2\_6/ptodata/2/pubpaa/PCT\_PUP
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1: /cgn2\_6/ptodata/2/pubpaa/us07\_pubcOMB.pep:\*
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3: /cgn2\_6/ptodata/2/pubpaa/us06\_puBcOMB.pep:\*
4: /cgn2\_6/ptodata/2/pubpaa/us06\_puBcOMB.pep:\*
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7: /cgn2\_6/ptodata/2/pubpaa/us08\_puBcOMB.pep:\*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Description	Sequence 159, App	Sequence 161, App	Sequence 163, App	Sequence 167, App	Sequence 171, App	· Sequence 175, App	Sequence 55, Appl	Sequence 63, Appl	Sequence 87, Appl	Sequence 95, Appl	Sequence 71, Appl	Sequence 79, Appl	Sequence 103, App	Sequence 111, App	Sequence 13, Appl
ΩΙ	US-09-795-006A-159	US-09-795-006A-161	US-09-795-006A-163	US-09-795-006A-167	US-09-795-006A-171	US-09-795-006A-175	US-09-795-006A-55	US-09-795-006A-63	US-09-795-006A-87	US-09-795-006A-95	US-09-795-006A-71	US-09-795-006A-79	US-09-795-006A-103	US-09-795-006A-111	US-10-139-876-13
DB.	10	10	10	10	10	10	10	10	10	10	10	10	10	10	14
Query Match Length DB	105	105	105	105	105	105	126	126	127	127	128	128	129	129	47
Query Match.	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9	75.6
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	Sequence 14', Appl	Sequence 14, Appl	Sequence 2, Appli	Sequence 2, Appli	Sequence 927, App	Seguence 51, Appl	Sequence 59, Appl	Sequence 153, App	Sequence 165, App	Sequence 169, App	Sequence 173, App	Seguence 927, App	Sequence 17, Appl	Sequence 11, Appl ·	Sequence 11, Appl	1, A	Sequence 43, Appl	Sequence 47, Appl	Sequence 83, Appl	Sequence 91, Appl	Sequence 67, Appl	Sequence 75, Appl	Sequence 99, Appl	Sequence 107, App	Sequence 2, Appli	5,	Sequence 4, Appli	Sequence 1, Appli	2, A	Sequence 61, Appl
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	15-10	18-10	3-09-761	1S-09	-60-sn	0S-09	L-60-SD	JS-09-7	0S-09	60-sn	L-60-SD	3S-09	-60-5	JS-10	JS-10	38-05	3S-05	-60-SI	50-S0	02-SD	0S-09	0S-09	ns-0	ns-0	US-10	US-1(	US-1(	US-1(	1	0S-09
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. ACT-WOOD-CK/-KO-SC	Sequence 159, Application US/09795006A	GENERAL THEORMATION	APPLICANT: Alitalo et al	TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR	TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAS AND PROTEINS	FILE REFERÊNCE: 28967/35977B	CURRENT APPLICATION NUMBER: US/09/795,006A	CURRENT FILING DATE: 2001-02-26	PRIOR APPLICATION NUMBER: US 60/205,331	PRIOR FILING DATE: 2000-05-18	PRIOR APPLICATION NUMBER: 46, 60/185, 205	PRIOR FILING DATE: 2000-02-25	NUMBER OF SEQ ID NOS: 175	SOFTWARE: Patentin Ver. 2.0	SEQ ID NO 159	<u>E</u>	TYI	OR	FE	P	US-09-795-006A-159	
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US-09-795-006A-161 Sequence 161, Application US/09795006A Patent No. US20020151680A1

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Gaps

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Score 60; DB 10; Length 105; Pred. No. 0.019; 1; Mismatches 2; Indels

Conservative

Similarity

Query Match Best Local Si Matches 11; Gaps

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, OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hyb
US-09-795-006A-167
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US-09-795-006A-171
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CURRENT APPLICATION NUMBER: US/09/795,006A
PRIOR APPLICATION NUMBER: US 60/205,331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 60; DB 10; Length 105;
Pred. No. 0.019;
1; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                         Length 105;
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Patent No. US20020151680A1
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID
TITLE OF INVENTION: ENDOTHELIAL, GROWTH FACTOR DNAS AND PROFILE REFERENCE: 2896/7359778
CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
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CURRENT APPLICATION NUMBER: US/09/795,006A
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Pred. No.
                    CURRENT FILING DATE: 2001-02-26
PRIOR PELLING UNMER: US 60/205,331
PRIOR FILING UNTE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
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PRIOR FILING DATE: 2000-05-18
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                                                                                                                                                                                                                                                                    ORGANISM: Artificial Sequence
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ORGANISM: Artificial Sequence
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PRIOR FILING DATE: 2000-02-25
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78.68;
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SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 171
LENGTH: 105
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Best Local Similarity 78.6
Matches 11; Conservative
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US-09-795-006A-161
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                 APPLICANT: Alitalo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAS AND PROTEINS
FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
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CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
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TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAS AND PROTEINS
FILE REFERENCE: 28967/35977B
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Pred. No. 0.019;
1; Mismatches 2
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PRROR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
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PRIOR APPLICATION NUMBER: US 6
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Best Local Similarity 70...
-has 11; Conservative
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SOFTWARE: PatentIn Ver. 2.0
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SOFTWARE: PatentIn Ver. 2.0
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APPLICANT: Alitalo et al
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Matches 11; Conserv
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; OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of L US-09-795-006A-63
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TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAS AND PROTEINS
FILE REFERENCE: 28967/359778
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; OTHER INFORMATION: DNA
US-09-795-006A-87
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PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
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                         ORGANISM: Artificial Sequence
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SOFTWARE: PatentIn Ver. 2.0
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Best Local Similarity
Matches 11; Conserv
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                                                   FEATURE:
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US-09-795-006A-175
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US-09-795-006A-55
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APPLICANT: Altelo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAS AND PROTEINS
FILLE REFRERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
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Pred. No. 0.023;
1; Mismatches
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Pred. No. 0.019
1; Mismatches
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PRIOR FILING DATE: 2000-05-18
FRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
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PRIOR FILING DATE: 2000-02-25
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Patent No. US20020151680A1
                                                                                                                   TYPE: PRT ORGANISM: Artificial Sequence
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Best Local Similarity 78.6%;
Matches 11; Conservative
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 175
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54 CNSEGLQCVPTEES 67
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SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 55
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Best Local Similarity 78.6°
Matches 11; Conservative
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APPLICANT: Alitalo et al
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US-09-795-006A-63
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                                                                                           LENGTH: 105
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US-09-795-006A-95	Matches 11; Conservative 1; Mismatches 2; Indels 0;	Gaps 0;
Query Match 76.9%; Score 60; DB 10; Length 127; Best Local Similarity 78.6%; Pred. No. 0.023; Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;	Qy 1 CNSEMRECVPTES 14	
Qy 1 CNSEMRECVPTEES 14      :          Db 55 CNSEGLQCVPTEES 68	RESULT 13 US-09-795-006A-103 ; Sequence 103, Application US/09795006A	
RESULT 11 US-09-795-006A-71 Sequence 71, Application US/09795006A Fatent No. US20020151680A1 GENERAL INFORMATION:	IAI THE	ĸ
APPLICANT: Alitalo et al TILLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR. TITLE OF INVENTION: ENNOTHELIAL GROWTH FACTOR DNAS AND PROTEINS FILE REFERENCE: 28967/35977B CURRENT APPLICATION NUMBER: 025/09/795,006A	CURRENT APPLICATION NUMBER: US/09/795,006A  CURRENT FILING DATE: 2001-02-26  FRIOR APPLICATION NUMBER: US 60/205,331  FRIOR FILING DATE: 2000-05-18  FRIOR PILING DATE: US 60/7185,205	ķ
	TATOR TAILNS DAILS: 2000 02 25 NUMBER OF SEO ID NOS: 175 SEO ID NO 103 LENGTH: 129	
SOFTWARE: PatentIn Ver. 2.0 SEQ ID NO 71 LENGTH: 128 TYPE: PRT	; Organism: Artificial Sequence; FEATURE: ; OTHER INFORMATION: Description of Artificial Sequence: amino acid US-09-795-006A-103	sequence of hyb
<pre>// OKGANLABR: Artificial Sequence // FEATURE: // OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybri // OTHER INFORMATION: DNA // INC. AGS. And A. 271</pre>	Query Match 76.9%; Score 60; DB 10; Length 129; Best Local Similarity 78.6%; Pred. No. 0.024; Matches 11; Conservative 1; Mismatches 2; Indels 0;	Gaps 0;
Query Match 76.9%; Score 60; DB 10; Length 128; Best Local Similarity 78.6%; Pred. No. 0.023; Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;	Qy 1 CNSEMRECVPTEES 14 	
Oy 1 CNSEMECUPTEES 14  Db 54 CNSEGLOCVPTEES: 67	RESULT 14 US-09-795-006A-111 ; Sequence 111, Application US/09795006A · Datent No. HS20020151680A1	
RESULT 12 US-09-795-006A-79 : Sequence 79, Application US/09795006A : Patent No. US20020151680A1	GENERAL INFORMATION: GENERAL INFORMATION: APPLICANT: Alitalo et al TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAS AND PROTEINS FITE PERFEDENCE: 28067-2750770	
GENERAL INFORMATION:  APPLICANT: Alitalo et al  TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR  TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAS AND PROTEINS  FIT DEPENDENCE: 20067.7360779	റ വ	
CURRENT APPLICATION, NUMBER: US/09/795,006A CURRENT FILING DATE: 2001-02-26 FRIOR PELLON NUMBER: US 60/205,331 FRIOR FILING DATE: 2000-05-18 FRIOR APPLICATION NUMBER: US 60/185,205	FRIOR FILING DATE: 2000-02-25 PRIOR FILING DATE: 2000-02-25 NUMBER OF SEQ ID NOS: 175 SOFTWARE: Patentin Ver. 2.0 SEQ ID NO 111 LENGTH: 129	
PRIOR FILING DATE: 2000-02-25  NUMBER OF SEQ ID NOS: 175  SOFTWARE: PatentIn Ver. 2.0  SEQ ID NO 79  LENGTH: 128	; TYPE: PRT ; ORGANISM: Artificial Sequence ; FEATURE: ; OTHER INFORMATION: Description of Artificial Sequence: amino acid US-09-795-006A-111	sequence of hyb
) ORGANISM: Artificial Sequence ) FEATURE: ) OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid US-09-795-006A-79	Query Match 76.9%; Score 60; DB 10; Length 129; Best Local Similarity 78.6%; Pred. No. 0.024; Matches 11; Conservative 1; Mismatches 2; Indels 0;	Gaps 0;
Query Match 76.9%; Score 60; DB 10; Length 128; Best Local Similarity 78.6%; Pred. No. 0.023;	QY 1.CNSMRECVPTES 14  - -	

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RESULT 15
US-10-139-876-13
Sequence 13, Application US/10139876
Fublication No US20020123481A1
SEGURRALI INFORMATION:
TITLE OF INFORMATION:
TITLE OF INFORMATION NUMBER: US/10/139,876
CURRENT FILING DATE: 1098-09-07
FILE REPERBACE: 35784/205172
CURRENT FILING DATE: 1098-09-10
FRIOR APPLICATION NUMBER: US/10/13
FRIOR APPLICATION NUMBER: GB9510368.2
FRIOR APPLICATION NUMBER: GB9510368.2
FRIOR APPLICATION NUMBER: GB9510928 7
FRIOR PELING DATE: 1996-09-30
SPRIOR FILING DATE: 1996-09-30
SPRIOR PELING DATE: 1996-09-30
SPRIOR FILING DATE: 1996-09-30
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Human, vascular endothelial growth factor; VEGF; mutein; mutation; kinase domain region receptor; KDR; vasculogenesis; anglogenesis; surgical incision; wound; laceration; blood vessel; ulcer.
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Misc-difference 91
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 1
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Mutant human VEGF
Mutant human VEGF
Polypeptide encode
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Polypeptide encode
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                                                                                                       (without alignments)
46.523 Million cell updates/sec
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                                                                                     July 24, 2003, 14:08:24; Search time 47.7647. Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                  /SIDSI/gcgdata/geneseq/geneseqp-embl/AA1983.DAT:*/SIDSI/gcgdata/geneseq/geneseqp-embl/AA1984.DAT:*/SIDSI/gcgdata/geneseqp-embl/AA1985.DAT:*/SIDSI/gcgdata/geneseqp-embl/AA1986.DAT:*/SIDSI/gcgdata/geneseqy/geneseqp-embl/AA1986.DAT:*/SIDSI/gcgdata/geneseqy/geneseqp-embl/AA1987.DAT:*/SIDSI/gcgdata/geneseqy/geneseqp-embl/AA1988.DAT:*/SIDSI/gcgdata/geneseqy/geneseqp-embl/AA1988.DAT:*/SIDSI/gcgdata/geneseqy/geneseqp-embl/AA1988.DAT:*
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/SIDS1/gogdata/geneseq/geneseqp-emb1/AA1990.DAT:
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/SIDS1/gcgdata/geneseq/geneseqp-emb1/AA2002.DAT:
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/SIDS1/gcgdata/geneseq/genesegp-embl/AA1981.
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          GenCore version 5.1.6
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                          of hits satisfying chosen parameters:
                                                                                                                                                                                                                                   1107863 seqs, 158726573 residues
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                                                              protein search, using sw model
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AAU08476
AAU08478
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AAU08470
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Maximum Match 100%
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                                                                                                                                                                    1 CNSEMRECVPTEES 14
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Maximum DB seq length: 200000000
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                                                                                                                                                 Vascular endothelial growth factor variant useful for detecting kinase domain region receptor for diagnostic purposes, comprises one or more amino acid mutations in native VEGF and has selective binding affinity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'note= "Wild-type Asp substituted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Wild-type Leu substituted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Score 78; DB 21; 100.0%; Pred. No. 0.00029;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
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                                                                                                                                                                                                                                           Claim 5; Page -; 70pp; English.
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23-FEB-2000; 2000US-0184235.
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nes 14; Conservative
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                                       (GETH ) GENENTECH INC
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                                                                                                            WPI; 2000-672736/65.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        and surface ulcers.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   191 AA;
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                                                                            Cunningham B,
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Synthetic.
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The present invention relates to mutant human vascular endothelial growth factor (VBGF) proteins (AAB28333-B28236. The present sequence is one such mutant. The mutant VBGF proteins have selective binding affinity for kinase domain region (KDR) receptor. The mutant VBGF proteins are useful for detecting KDR receptors for diagnostic purposes. In addition, the mutant VBGF proteins are useful for stimulating vasculogenesis or anglogenesis by exposing mammalian cells expressing a KDR receptor to the mutant proteins to treat trauma to the vascular network caused by surgical incisions, wounds, lacerations, penetration of blood vessels
                                                                                                                                                                                                                                                    Vascular endothelial growth factor variant useful for detecting kinase domain region receptor for diagnostic purposes, comprises one or more amino acid mutations in native VEGF and has selective binding affinity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              the present sequence is not shown in the specification but is of from the wild-type human VEGF sequence given in Fig 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100.08; Pred. No. 0.00029;
Matches 14; Conservative 0; Mismatches 0;
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                                                                                                                          Li B;
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23-FEB-2000; 2000US-0184235.
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                                                                                                                             Abraham D,
                                                                  (GETH ) GENENTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mutant human VEGF #4.
                                                                                                                                                                                     WPI; 2000-672736/65
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10-APR-2000; 2000WO-US09483.

16-APR-1999;

WO200063380-A1

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The present invention relates to polypeptides that bind cellular receptors for vascular endothelial growth factors (VEGFs), the polynucleotides encoding them, and their use for identifying agents that modulate interactions between VEGFs and their receptors. VEGFs and their receptors play an important role in vasculogenesis, the development of the embryonic vasculature from early differentiating endothelial cells and angiogenesis, the process of forming new blood vessels from pre-existing ones. Modulators of interactions between VEGF and its receptors may be used to treat dysfunction of the endothelial cells regulatory system. Such disorders include cancers, abnormal angiogenesis, proliferative retinopathies, age-related macular degeneration, rheumatoid arthritis and psoriasis. The polypeptides of the invention exhibit unique receptor binding profiles compared to known naturally, occurring VEGFs. The present sequence represents the polypeptide encoded by human
                     Polypeptides that bind cellular receptors for vascular endothelial growth factors, polynucleotides encoding them -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 53-3.
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Pred. No: 0.09;
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                                                                                             Claim 45; Page 252; 261pp; English
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78.6%; Pred
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es 11; Conserv
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Synthetic.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
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                                                                                                                                                                                                                                                                                                                                                The present invention relates to mutant human vascular endothelial growth factor (VBGF) proteins (AAB28233-B28236). The present sequence is one such mutant. The mutant VBGF proteins have selective binding affinity for kinase domain region (KDR) receptor. The mutant VBGF proteins are useful for detecting KDR receptors for diagnostic purposes. In addition,
                                                                                                                                                                                 Vascular endothelial growth factor variant useful for detecting kinase domain region receptor for diagnostic purposes, comprises one or more amino acid mutations in native VEGF and has selective binding affinity
                                                                                                                                                                                                                                                                                                                                                                                                                                                               the mutant VECF proteins are useful for stimulating vasculogenesis or
angiogenesis by exposing mammalian cells expressing a KDR receptor to
the mutant proteins to treat trauma to the vascular network caused by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         incisions, wounds, lacerations, penetration of blood vessels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VEGF-A; vasculogenesis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             angiogenesis; blood vessel; cancer; proliferative retinopathy; psoriasis; age-related macular degeneration; rheumatoid arthritis; cardiovascular; VEGF-C; mutant; mutein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Note: the present sequence is not shown in the specification but derived from the wild-type human VEGF sequence given in Fig 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 52-15.
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Pred: No. 0.00029;
Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human; vascular endothelial growth factor;
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                                                                                                                                                                                                                                                                                                       Claim 7; Page -; 70pp; English.
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23-FEB-2000; 2000US-0184235.
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nes 14; Conserv
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                                                                                             Cunningham B,
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Synthetic.
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Sequence

surgical

PRANTAL SERVICE SERVIC

Query Match

Best Loc Matches

AAU08470;

RESULT 4 AAU08470

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Polypeptides that bind cellular receptors for vascular endothelia growth factors, polynucleotides encoding them -

(LUDW-) LUDWIG INST CANCER RES

(LICN ) LICENTIA OY

Alitalo K, Jeltsch MM;

WPI; 2001-536640/59. N-PSDB; AAS12889.

26-FEB-2001; 2001WO-US06113. 25-FEB-2000; 2000US-0185205. 18-MAY-2000; 2000US-0205331.

(LUDW-) LUDWIG INST CANCER RES (LICH ) LICENTIA OY.

Alitalo K, Jeltsch MM; WPI; 2001-536640/59. N-PSDB; AAS12890. Claim 46; Page 253; 261pp; English

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Gaps

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5

Length 105; Indels

receptors may be used to treat dysfunction of the endothelial cell regulatory system. Such disorders include cancers, abnormal angiogenesis, proliferative retinopathies, age-related macular degeneration, rheumatoid arthritis and psoriasis. The polypeptides of the invention exhibit unique receptor binding profiles compared to known naturally occurring VEGFS. The present invention relates to polypeptides that bind cellular receptors for vascular endothelial growth factors (VEGFS), the bolynucleotides encoding them, and their use for identifying agents that modulate interactions between VEGFS and their receptors. VEGFS and their receptors play an important role in vasculogenesis, the development of the embryonic vasculature from early differentiating endothelial cells and angiogenesis, the process of forming new blood vessels from pre-existing ones. Modulators of interactions between VEGF and its present sequence represents the polypeptide encoded by human VEGF-A/VEGF-C hybrid construct clone 53-3. 

105 AA; Sequence

Gaps ; DB 22; Length 105; 2; Indels Score 60; DB 2; Pred. No. 0.09; Mismatches 76.98; 78.68; 1 CNSEMRECVPTEES 14 11; Conservative Best Local Similarity Query Match Matches. g ð

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RESULT 6

AAU08472 standard; Protein; 105 AA. AAU0847

21-NOV-2001 (first entry)

Human; vascular endothelial growth factor; VEGF-A; vasculogenesis; angiogenesis; blood vessel; cancer; proliferative retinopathy; psoriasis; age-related macular degeneration; rheumatoid arthritis; cardiovascular; VEGF-C; mutant; mutein.

Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 82-7

Homo sapiens Synthetic.

WO200162942-A2

30-AUG-2001.

25-FEB-2000; 2000US-0185205. 18-MAY-2000; 2000US-0205331.

26-FEB-2001; 2001WO-US06113.

LUDW-) LUDWIG INST CANCER RES. (LICH ) LICENTIA OY.

Alitalo K, Jeltsch MM,

WPI; 2001-536640/59. N-PSDB; AAS12891.

vascular endothelial Polypeptides that bind cellular receptors for growth factors, polynucleotides encoding them Claim 47; Page 254-255; 261pp; English. The present invention relates to polypeptides that bind cellular receptors for vascular endothelial growth factors (VEGFs), the polynucleotides encoding them, and their use for identifying agents that modulate interactions between VEGFs and their receptors. VEGFs and their receptors play an important role in vasculogenesis, the development of the embryonic vasculature from early differentiating endothelial cells

the embryonic vasculature from early differentiating endothelial cells and angiogenesis, the process of forming new blood vessels from pre-existing ones. Modulators of interactions between VEGF and its receptors may be used to treat dysfunction of the endothelial cell regulatory system. Such disorders include cancers, abnormal angiogenesis, proliferative retinopathies, age-related macular degeneration, rheumatoid arthritis and psoriasis. The polypeptides of the invention exhibit unique

receptors for vascular endothelial growth factors (VEGFs), the polymuclectides encoding them, and their use for identifying agents that modulate interactions between VEGFs and their receptors. VEGFs and their receptors users and their receptors that receptors are important role in vasculogenesis, the development of

present invention relates to polypeptides that bind cellular

and angiogenesis, the process of forming new blood vessels from pre-existing ones. Modulators of interactions between VEGF and its receptors may be used to treat dysfunction of the endothebial cell regulatory system. Such disorders include cancers, abnormal angiogenesis, proliferative retinopathies, age-related macular degeneration, rheumatoid arthritis and psoriasis. The polypeptides of the invention exhibit unique receptor binding profiles compared to known naturally occurring VEGFs. The present sequence represents the polypeptide encoded by human VEGF-A/VEGF-C hybrid construct clone 82-7. ö Gaps Polypeptides that bind cellular receptors for vascular endothelial growth factors, polynucleotides encoding them -Human; vascular endothelial growth factor; VEGF-A; vasculogenesis; angiogenesis; blood vessel; cancer; proliferative retinopathy; psoriasis; age-related macular degeneration; rheumatoid arthritis; ö Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 82-11 Length 105; 5; DB 22; Score 60; DB 22 Pred. No. 0.09; Mismatches cardiovascular; VEGF-C; mutant; mutein. AAU08474 standard; Protein; 105 AA. Claim 49; Page 257; 261pp; English. (LUDW-) LUDWIG INST CANCER RES 76.9%; 25-FEB-2000; 2000US-0185205. 18-MAY-2000; 2000US-0205331. 26-FEB-2001; 2001WO-US06113 1 CNSEMRECVPTEES 14 (first entry) 11; Conservative Alitalo K, Jeltsch MM; WPI; 2001-536640/59. N-PSDB; AAS12893. (LICH ) LICENTIA OF Best Local Similarity Sequence · 105 AA; WO200162942-A2 Homo sapiens. Synthetic. 21-NOV-2001 30-AUG-2001. Query Match Matches AAU08474 RESULT ò 8888888888 a

Length 105;

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1 CNSEMRECVPTEES 14
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Query Match
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   receptor binding profiles compared to known naturally occurring VEGFs.
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                           The present sequence represents the polypeptide encoded by human VEGF-A/VEGF-C hybrid construct clone 82-11.
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18-MAY-2000; 2000US-0205331.
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Pred. No. 0.09;
1; Mismatches
DB 22
0.09;
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   Score 60;
Pred. No.
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18-MAY-2000; 2000US-0205331
76.9%;
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                                                                                                                                                54 CNSEGLOCVPIEES 67
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Best Local Similarity 78.69
Matches 11; Conservative
                                                               Conservative
                                                                                                                  1 CNSEMRECVPTEES
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N-PSDB; AAS12897.
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Human; vascular endothelial growth factor; VEGF-A; vasculogenesis; angiogenesis; blood vessel; cancer; proliferative retinopathy; psoriasis; age-related macular degeneration; rheumatoid arthritis;

cardiovascular; VEGF-C; mutant; mutein.

Homo sapiens. Synthetic.

/note= "VEGF receptor binding domain"

Location/Qualifiers

Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 12-7

(first entry)

21-NOV-2001

AAU08413;

AAU08413 standard; Protein; 126 AA.

AAU08413

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54 CNSEGLOCVPTEES
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requirects system. Such disorders include cancers, abnormal anglogenesis, proliferative retinopathies, age-related macular degeneration, rheumatoid arthritis and psoriasis. The polypeptides of the invention exhibit unique
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          and anglogenesis, the process of forming new blood vessels from pre-existing ones. Modulators of interactions between VEGF and its receptors may be used to treat dysfunction of the endothelial cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Polypeptides that bind cellular receptors for vascular endothelial growth factors, polynucleotides encoding them
                                                                                                                                                                                       Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
                                                                                                                                                                                                      angiogenesis; blood vessel; cancer; proliferative retinopathy; psoriasis; age-related macular degeneration; rheumatoid arthritis; cardiovascular; VBGF-C; mutant; mutein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The present sequence represents the polypeptide encoded by human VEGF-A/VEGF-C hybrid construct clone 12-3.
                                                                                                                                                 Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 12-3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       eceptor binding profiles compared to known naturally
                                                                                                                                                                                                                                                                                                                                                                       /note= "VEGF receptor binding domain"
                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example 3; Page 184; 261pp; English
                                      AAU08409 standard; Protein; 126 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (LUDW-) LUDWIG INST CANCER RES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      25-FEB-2000; 2000US-0185205.
18-MAY-2000; 2000US-0205331.
                                                                                                                                                                                                        angiogenesis; blood vessel;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  :6-FEB-2001; 2001WO-US06113
                                                                                                            21-NOV-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alitalo K, Jeltsch MM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (LICN ) LICENTIA OY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2001-536640/59.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  126 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     N-PSDB; AAS12846.
                                                                                                                                                                                                                                                                                                                                                                                                           WO200162942-A2
                                                                                                                                                                                                                                                                                 sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                               30-AUG-2001.
                                                                                                                                                                                                                                                                                              Synthetic.
                                                                        AAU08409;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                        Domain
RESULT 10
AAU08409
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Polypeptides that bind cellular receptors for vascular endothelial growth factors, polynucleotides encoding them

(LUDW-) LUDWIG INST CANCER RES.

(LICH ) LICENTIA OY

Alitalo K, Jeltsch MM;

WPI; 2001-536640/59.

N-PSDB; AAS12850

2000US-0185205 2000US-0205331

25-FEB-2000; 18-MAY-2000;

26-FEB-2001; 2001WO-US06113

WO200162942-A2

Domain

30-AUG-2001

Claim 37; Page 189; 261pp; English.

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regulatory system. Such disorders include cancers, abnormal angiogenesis, proliferative retinopathies, age-related macular degeneration, rheumatoid arthritis and psoriasis. The polypeptides of the invention exhibit unique
                             receptors for vascular endothelial growth factors (VEGFS), the polynucleotides encoding them, and their use for identifying agents that modulate interactions between VEGFS and their receptors. VEGFS and their receptors play an important role in vasculogenesis, the development of the embryonic vasculature from early differentiating endothelial cells and angiogenesis, the process of forming new blood vessels from pre-existing ones. Modulators of interactions between VEGF and its receptors may be used to treat dysfunction of the endothelial cell
                                                                                                                                                                                                                                                                                                                                                                                            Tiles compared to known naturally occurring VEGFs. represents the polypeptide encoded by human construct clone 12-7.
present invention relates to polypeptides that bind cellular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 126;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               76.9%; Score 60; DB 22 78.6%; Pred. No. 0.11; ive 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                              receptor binding profiles compared
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 CNSEMRECVPTEES 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VEGF-A/VEGF-C hybrid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match .
Best Local Similarity
Matches 11; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 60, DB 22; Length 126;
Pred. No. 0.11;
1; Mismatches 2; Indels
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54 CNSEGLQCVPTEES q

76.9%; 78.6%;

1 CNSEMRECVPTEES 14 

ô g

11; Conservative

Matches

Best Local Similarity

Query Match

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Gaps

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RESULT 12

AAU08425

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pepl.rag

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receptors may be used to treat dysfunction of the endothelial cell sequiatory system. Such disorders include cancers, abnormal angiogenesis, proliferative retinopathies, age-related macular degeneration, rheumatoid arthritis and psoriasis. The polypeptides of the invention exhibit unique
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The present invention relates to polypeptides that bind cellular receptors for vascular endothelial growth factors (VEGFS), the polynucleotides encoding them, and their use for identifying agents that modulate interactions between VEGFs and their receptors. VEGFs and their receptors play an important role in vasculogenesis, the development of the embryonic vasculature from early differentiating endothelial cells and angiogenesis, the process of forming new blood vessels from pre-existing ones. Modulators of interactions between VEGF and its
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                                                                                                                                                                                                                                                                                                                                                                                                                             Human; yascular endothelial growth factor; VEGF-A; vasculogenesis; andjogenesis; blood vessel; cancer; proliferative retinopathy; psoriasis; age-related macular degeneration; rheumatoid arthritis; cardiovascular; VEGF-C; mutant; mutein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Polypeptides that bind cellular receptors for vascular endothelial growth factors, polynucleotides encoding them
                                                                                                                                                                                                                                                                                        Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 31-7.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1..103
/note= "VEGF receptor binding domain
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example 3; Page 209; 261pp; English.
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18-MAY-2000; 2000US-0205331
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                                                                                                                                                   21-NOV-2001 (first entry)
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Best Local Similarity
Matches 11; Conserv
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Synthetic.
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       AAU08429;
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AAU08417
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       receptors for vascular endothelial growth factors (VEGFS), the polynucleotides encoding them, and their use for identifying agents that modulate interactions between VEGFS and their receptors. VEGFS and their receptors play an important role in vasculogenesis, the development of the embryonic vasculature from early differentiating endothelial cells and angiogenesis, the process of forming new blood vessels from pre-existing ones. Modulators of interactions between VEGF and its receptors may be used to treat dysfunction of the endothelial cell regulatory system. Such disorders include cancers, abnormal angiogenesis, proliferative retinopathies, age-related macular degeneration, rheumatoid arthritis and psoriasis. The polypeptides of the invention exhibit unique receptor binding profiles compared to known naturally occurring VEGFS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present sequence represents the polypeptide encoded by human VEGF-A/VEGF-C hybrid construct clone 31-3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human; vascular endothelial growth factor; VEGF-A; vasculogenesis; angiogenesis; blood vessel; cancer; proliferative retinopathy; psoriasis; age-related macular degeneration; rheumatoid arthritis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present invention relates to polypeptides that bind cellular
                                                                                                                                                                                                                                                                                                                                                                                                                             olypeptide encoded by human VEGF-A/VEGF-C hybrid clone 31-3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     76.9%; Score 60; DB 22; Length 127; 78.6%; Pred. No. 0.11;
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AAU08425 standard; Protein; 127 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000US-0185205.
2000US-0205331.
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                                                                                                                                                                                                                                                                                        (first.entry)
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Matches 11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Alitalo K, Jeltsch MM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1..103
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N-PSDB; AAS12862.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    40200162942-A2
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Synthetic.
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                                                                                                                                                                                                                                                                                 21-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30-AUG-2001.
                                                                                                                                            AAU08425;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
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Gaps

DB 22; Length 127;

Query Match

ò g RESULT 13 AAU08429 ID AAU0 Human; vascular endothelial growth factor; VEGF-A; vasculogenesis; angiogenesis; blood vessel; cancer; proliferative retinopathy; psoriasis; age-related macular degeneration; rheumatoid arthritis;

cardiovascular; VEGF-C; mutant; mutein.

Homo sapiens

Synthetic.

/note= "VEGF receptor binding domain"

Location/Qualifiers

Domain

Key

Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 12-15.

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proliferative retinopathies, age-related macular degeneration, rheumatoid
arthritis and psoriasis. The polypeptides of the invention exhibit unique
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present invention relates to polypeptides that bind cellular receptors for vascular endothelial growth factors (VEGFs), the polynucleotides encoding them, and their use for identifying agents that modulate interactions between VEGFs and their receptors. VEGFs and their receptors play an important role in vasculogenesis, the development of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         abnormal angiogenesis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       the embryonic vasculature from early differentiating endothelial cells and angiogenesis, the process of forming new blood vessels from pre-existing ones. Modulators of interactions between VEGF and its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        to known naturally occurring VEGFs polypeptide encoded by human
                                                                                                           Human, vascular endothelial growth factor; VEGF-A; vasculogenesis; angiogenesis; blood vessel; cancer; proliferative retinopathy; psoriasis; age-related macular degeneration; rheumatoid arthritis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       vascular endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            receptors may be used to treat dysfunction of the endothelial cell regulatory system. Such disorders include cancers, abnormal angiog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                    Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 12-11.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 22; Length 128; 0.11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                              /note- "VEGF receptor binding domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Polypeptides that bind cellular receptors for growth factors, polynucleotides encoding them
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 60; DB 7 Pred. No. 0.11; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              the present sequence represents the polype MEGF-A/VEGF-C hybrid construct clone 12-11
                                                                                                                                                                                    cardiovascular; VEGF-C; mutant; mutein.
                                                                                                                                                                                                                                                                                                  Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      eceptor binding profiles compared
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (LUDW-) LUDWIG INST CANCER RES. (LICN ) LICENTIA OY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25-FEB-2000; 2000US-0185205.
18-MAY-2000; 2000US-0205331.
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78.68;
                   21-NOV-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 76.9%
Best Local Similarity 78.6%
Matches 11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Jeltsch MM;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N-PSDB; AAS12854
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                                                                                                                                                                                                                                Homo sapiens.
Synthetic.
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Polypeptides that bind cellular receptors for vascular endothelial growth factors, polynucleotides encoding them

(LUDW-) LUDWIG INST CANCER RES. (LICH) LICENTIA OY.

Alitalo K, Jeltsch MM;

WPI; 2001-536640/59

N-PSDB; AAS12858

26-FEB-2001; 2001WO-US06113.

WO200162942-A2

30-AUG-2001

2000US-0185205. 2000US-0205331.

25-FEB-2000; 18-MAY-2000;

```
The present invention relates to polypeptides that bind cellular receptors for vascular endothelial growth factors (VEGFs), the polynucleotides encoding them, and their use for identifying agents that modulate interactions between VEGFs and their receptors. VEGFs and their receptors play an important role in vasculogenesis, the development of the embryonic vasculature from early differentiating endothelial cells and anglogenesis, the process of forming new blood vessels from pre-existing ones. Modulators of interactions between VEGF and its receptors may be used to treat dysfunction of the endothelial cell regulatory system. Such disorders include cancers, abnormal angiogenesis, proliferative retinopathies, age-related macular degeneration, rheumatoid arthritis and psoriasis. The polypeptides of the invention exhibit unique receptor binding profiles compared to known naturally occurring VEGFs.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present sequence represents the polypeptide encoded by human VEGF-A/VEGF-C hybrid construct clone 12-15.
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Pred. No. 0.11;
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Job time: 49.2647 secs
Example 3; Page 199; 261pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            76.98;
78.68;
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54 CNSEGLQCVPTEES 67
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Best Local $
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AAU08421 standard; Protein; 128 AA.

RESULT 15 AAU08421 ID AAU08 (first entry)

21-NOV-2001

AAU08421;

XX

g ç

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GenCore version 5.1.6

Copyright (c) 1993 - 2003 Compugen Ltd.

OM protein - protein search, using sw model

Run on: July 24, 2003, 14:43:50; Search time 11.9412 Seconds

(without alignments)

49.606 Million cell updates/sec

Title: PEPP

Sequence: 1 CNSEMRECVPTEES 14

Scoring table: BLOSUM62

Gapop 10.0, Gapext 0.5

Searched: 328717 seqs, 42310858 residues

Total number of hits satisfying chosen parameters: 328717

Minimum DB seq length: 00

Maximum DB seq length: 2000000000
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Post-processing: Minimum Match 08
Maximum Match 1008
Listing first 45 summaries

Issued\_Patents\_AA:

Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

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Description	Sequence 12, Appl	3,	Ħ	11,	-	Patent No. 5194596		ce 1	17,	16,	2.	8	5,	4	2,	1	<u>_</u>	Sequence 4, Appli	7	4	24.	3,	m	. 21	Š.	Sequence 28, Appl	
. QI	US-09-244-583-12	US-08-691-794-3	US-09-392-932-11	US-09-574-708A-11	US-09-822-270-17	5194596-19	5219739-20	US-09-037-983C-15	US-09-037-983C-17	US-09-037-983C-16	US-09-519-476-2	US-08-784-551C-2	US-09-392-932-2	US-09-574-708A-4	US-09-037-983C-2	US-08-807-992B-1	US-09-392-932-1	US-08-706-054A-4	US-09-574-708A-2	US-09-313-299-4	US-09-244-583-24	US-08-882-816-3	US-08-802-052B-3	5194596-18	5219739-19	US-09-244-583-28	US-08-567-200A-2
% Query Match Length DB	5.6 65 4	9	. و	5.6 110 4	٠٠	5.6 121 6	5.6 121 6	5.6 136 4	5.6 137 4	5.6 138 4	5.6 141 4	5.6 145 3	5.6 145 4	5.6 145 4	5.6 145.4	5.6 147 3	5.6 147 4	5.6 147 4	9.	. و	5.6 164 4	9.	5.6 165 4	9	5.6 165 6	5.6 188 4	5.6 191 3
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Result No.	1		3	₹	S	9	7	8	σ	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	56	27

APPLICANT: Li, Bing
TITLE OF INVENTION: Variants of Vascular Endothelial Cell
FITLE OF INVENTION: Growth Factor, Their Uses, and Processes for their
NUMBER OF SEQUENCES: 45

: Fiehr, Hobbach, Test, Albritton & Herbert Four Embarcader Center, Suite 3400

CORRESPONDENCE ADDRESS:
ADDRESSEE: Flehr, HOI STREET: Four Embarcac CITY: San Francisco

nce 2, nce 3, nce 56, nce 56, nce 2, nce 2, nce 2, nce 3,	Sequence 49, Applatent No. 5219739 atent No. 5240848 Sequence 10, Appl	VEGF	0: Gaps 0:		
Seques Seques Seques Seques Seques Seques Seques Seque Seque Seque Seque Partent Partent Patent Seque Seques Seque	Seque Patent Patent Seque	NIC FACTOR GROWTH FACTOR:	Length 65;	4.5	1
S-08-807-992B- S-08-691-94-2 S-08-795-430-5 S-09-392-332-3 S-09-355-700-5 S-09-574-708A- 332671-4 S-09-574-708A- S-09-574-708A- S-09-802-953- S-09-802-953- S-09-802-953- S-09-803-803-803-803-803-803-803-803-803-803	02-09-09-09-49-521-09-33-22-524-08-48-7-7-08-96-09001-10-8-7-8-8-8-8-8-8-8-8-8-8-8-8-8-8-8-8-8-	3 THE ANGIOGE HELIAL CELL 244,583	s Version 3.0  Score 59; DB 4; Pred. No. 0.021; 0; Mismatches	. 46	H. Sone an C.
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28 332 332 332 334 338 337 440	4 4 4 4 1 6 4 6	RESULT 1 US-09-244-5E Sequence 1 Sequence 1 Patent No GENERAL IN APPLICAMN APPLICAMN TITLE OF TITLE OF FFIERENT F CURRENT F CURRENT F CURRENT F CURRENT F SEARLIER F SEARLIER F	NUMBER OF SOFTWARE: SEQ ID NI TYPE: PRT TYPE: PRT ORGANISM: Ouery Match Best Local Matches I	Oy 1 C Db 47 C RESULT 2 US-08-691-794-3 ' Sequence 3, A	GENERAL INFO APPLICANT: APPLICANT: APPLICANT: APPLICANT: APPLICANT: APPLICANT: APPLICANT:

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APPLICANT: DERBIN, CLAUDE
APPLICANT: PERRET, GERARD
APPLICANT: MAZIE, JEAN-CLAUDE
APPLICANT: PLOUET, JEAN
APPLICANT: VASSAY, ROGER
TITLE OF INVENTION: PEPTIDES BLOCKING VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF)-MI
TITLE OF INVENTION: ANGIOGENESIS, POLYNUCLEOTIDES ENCODING SAID PEPTIDES AND METI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 59; DB 4; Length 110; [Pred. No. 0.035; 0; Mismatches 3; Indels
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                                                                                                                              GENERAL INFORMATION:
APPLICANT: N. Stephen Pollitt
APPLICANT: Judith A. Abraham
TITLE OF INVENTION: Vascular endothelial growth factor
TITLE OF INVENTION: variants
FILE REPERENCE: SCIGSONGAA
CURRENT ABLICATION UNMER: US/09/574,708A
CURRENT PILING DATE: 2000-05-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION NUMBER: US/09/822,270
CURRENT FILING DATE: 2001-04-02
PRICH APPLICATION NUMBER: US 60/193,396
PRICH FILING DATE: 2000-03-31
NUMBER OF SEQ ID NOS: 17
                                                                                                                                                                                                                                                                      PRIOR APPLICATION NUMBER: US 60/135,312 PRIOR FILING DATE: 1999-05-20"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; OTHER INFORMATION: SYNTHETIC PEPTIDE US-09-822-270-17
                                                                                     Sequence 11, Application US/09574708A Patent No. 6475796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 17, Application US/09822270 Patent No. 6559126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
APPLICANT: TOURNAIRE, ROSELYNE
APPLICANT: DEMANGEL, CAROLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: PatentIn version 3.1
SEQ ID NO 17
LENGTH: 110
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Best Local Similarity 78.6%;
Matches 11; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; ORGANISM: Homo sapiens
US-09-574-708A-11
                                                                  US-09-574-708A-11
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US-09-822-270-17
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Pred. No. 0.035;
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                                                                                                                                                   PatentIn Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Scheiner, George F.
APPLICANT: Scheiner, George F.
APPLICANT: Johnson, Richard J.
TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION
TITLE OF INVENTION: COMPOSITIONS FOR USE THEREIN
FILLE REFERENCE: SCIOS, 002A
CURRENT APPLICATION NUMBER: US/09/392,932
CURRENT FILLING DATE: 1999-09-09
EARLIER FILLING DATE: 1999-09-09
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 3;
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Pred. No. 0.035
0; Mismatches
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                                                                                                                                                                   CURRENT APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: US/08/691,794
FILING DATE: 02-AUG-1996
CLASSIFICATION: AUS-1996
CLASSIFICATION DATA:
PRIOR APPLICATION DATA:
FILING DATE: 25-AUG-1995
PRIOR APPLICATION DATA:
FILING DATE: 25-AUG-1995
APPLICATION NUMBER: US 08/567,200
FILING DATE: 05-DEC-1995
ATTORNEY/AGENT INFORMATION:
NAME: DIEGET, WALLER:
REGISTRATION NUMBER: 24,190
REFERENCE/DOCKET NUMBER: A-63758/WHD
                                                                                     MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 11, Application US/09392932
Patent No. 6352975
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: (415) 781-1989
TELEFAX: (415) 781-1989
TELEX: 910 277299
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 109 amin
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78.6%;
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Best Local Similarity 78.6%;
Matches 11; Conservative (
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California
: United States
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                                                                COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Homo Sapiens
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Best Local Similarity
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LENGTH: 110
TYPE: PRT
                                                                                                                                                          SOFTWARE:
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Gaps

Gaps

RESULT 6 5194596-19

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; Patent No. 5194596 ; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN ; C.; MITCHELL, RICHARD L. ; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL	; LENGTH: 136 ; TYPE: PRT ; ORGANISM: Homo sapiens US-09-037-983C-15	
GROWTH FACTOR  WUMBER SEQUENCES: 32  CURRENT APPLICATION DATA:  APPLICATION WUMBER: US/07/450,883	Query Match 75.6%; Score 59; DB 4; Length 136; Best Local Similarity 78.6%; Pred. No. 0.043; Matches 11; Conservative 0; Mismatches 3; Indels 0; Gaps 0;	
FILING DATE: 27-JUL-1989  FILING DATE: 27-JUL-1989  SEQ ID NO:19:	Oy 1 CNSEMRECVPTEES 14 	
<pre>; LENGTH: 121 5194596-19 Query Match     75.6%; Score 59; DB 6; Length 121; Best Local Similarity 78.6%; Pred No. 0.038; Matches 11; Conservative 0; Mismatches 3; Indels 0; Gaps 0;</pre>	3C-17 7, Applica 6583276 FORMATION:	
OY 1 CNSEMRECVPTEES 14 	; APPLICANT: Newfeld, Gera ; APPLICANT: Keshet, Eli ; APPLICANT: Vlodavsky, Israel ; APPLICANT: Poltorak, Zoya ; TTTLE OF INVEWNION: Anglogenic Factor and Use Thereof in Treating Cardiovascular	
9739	0274-00009 N NUMBER: US/09/037, S: 1998-03-11 NUMBER: 60/025, 537	
JOHN C. MITCHELL, RICHARD L. JOHN C. MITCHELL, RICHARD L. JUCKET LI AND METHODS FOR THE PRODUCTION OF BOVING AND JHVEGF L11 AND METHODS FOR THE PRODUCTION OF BOVING AND HUMAN SHOPPING LICHOS FOR THE PROTOCTION OF BOVING AND HUMAN VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS. BECFILD AND HYEGFILD	FILON FILING DATE: 199-09-09-08 NUMBER OF SEQ ID NOS: 17 SOFTWARE: PatentIn version 3.1 SEQ ID NO 17 TENGTH: 137	
TOF SEQUENCES: 40  WT APPLICATION DATA: LICATION NUMBER: US/07/559,041	; TYPE: PRT; ORGANISM: Homo sapiens US-09-037-983C-17	
FILING DATE: 17-70L-1990 PRIOR APPLICATION DATA: APPLICATION NUMBER: 450,883 FILING DATE: 14-DEC-1989 APPLICATION ANTARE: 307 545	Query Match 75.6%; Score 59; DB.4; Length 137; Best Local Similarity 78.6%; Pred. No. 0.043; Matches 11; Conservative 0; Mismatches 3; Indels 0; Gaps 0;	
. 27 - JUL-	Oy 1 CNSEMRECVPTEES 14	
Query Match Best Local Similarity 78.6%; Pred. No. 0.038; Matches 11; Conservative 0; Mismatches 3; Indels 0; Gaps 0;	RESULT 10 US-09-037-983C-16 ; Sequence 16, Application US/09037983C	
Oy 1 CNSEMRECVPTEES 14	; Parent No. 6583276 ; GENERAL INFORMATION: ; APPLICANT: Newfeld, Gera ; APPLICANT: Keshet, Eli ; APPLICANT: Vlodavsky, Israel	
	; APPLICAMT: Politorak, Zoya; TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular; TITLE REFERENCE: 000274-00009; CURRENT APPLICATION NUMBER: U\$/09/037,983C; CURRENT FILING DATE: 1998-03;11.	
APPLICANT: Newfeld, Gera APPLICANT: Newfeld, Gera APPLICANT: APPLICANT: Viodavsky, Israel APPLICANT: Poltorak, Zoya TILLE OF INVENTION: Application Factor and Use Thereof in Treating Cardiovascular Dise	PRIOR FILING DATE: 1996-09-06  NUMBER OF SEQ ID NOS: 17  SOFTWARE: PatentIn version 3.1  SEQ ID NO 16  LENGTH: 138  TUPE DET	
ENT APPLICATE ENT FILING IN R APPLICATION R FILING DATE EN OF SEQ III WARE: Patent	; ORGANISM: Homo sapiens US-09-037-983C-16  Owery Match Best Local Similarity 78.6%; Pred: No. 0.044; Matches 11; Conservative 0; Mismatches 3; Indels 0; Gaps 0;	
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: Schreiner, George F.
APPLICANT: Johnson, Richard J.
TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND
TITLE OF INVENTION: COMPOSITIONS FOR USE THEREIN
FILE REFERENCE: SCIOS.002A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: N. Stephen Pollitt
APPLICANT: Judith A. Abraham
TITLE OF INVENTION: Vascular endothelial growth factor
TITLE OF INVENTION: Variants
                                                                                                                                                                                                Score 59; DB 3;
Pred. No. 0.046;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILE REFERENCE: SCIOSO04A
CURRENT APPLICATION NUMBER: US/09/574,708A
CURRENT FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/135,312.
PRIOR FILING DATE: 1999-05-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EARLIER APPLICATION NUMBER: 60/099,694

BEARLIER FILING DATE: 1998-09-09

NUMBER OF SEG ID NOS: 11

SOFTWARE: FastSEG for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 59;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION NUMBER: US/09/392,932
CURRENT FILING DATE: 1999-09-09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 4, Application US/09574708A Patent No. 6475796
                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 2, Application US/09392932 Patent No. 6352975
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                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 145 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 CNSEMRECVPTEES 14
TELEFAX: (202) 463-6915
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                                                                                                                                                                                                                                                                                                                   61 CNDEGLECVPTEES 74
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Matches 11; Conservative
                                      INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                       11; Conservative
                                                                                                                STRANDEDNESS: single
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; ORGANISM: Homo Sapiens
US-09-392-932-2
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; ORGANISM: Homo sapiens
US-09-574-708A-4
                                                                                                                                                                                              Query Match
Best Local Similarity
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SOFTWARE: FastSEQ for
                                                                                                                                       linear
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US-08-784-551C-2
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                                                                                                                                                                      GENERAL INFORMATION:
APPLICANT: MINTZ, Liat et al.
TITLE OF INVENTION: NOVEL NUCLEIC ACID AND AMINO ACID SEQUENCES FILE REFERENCE: 2786-0149P
CURRENT APPLICATION NUMBER: US/09/519,476
CURRENT FILING DATE: 2000-03-09
PRIOR PAPLICATION NUMBER: II128852
PRIOR PAPLICATION NUMBER: II128852
PRIOR FILING DATE: 1999-03-05
NUMBER OF SEQ ID NOS: 2
SOFTWARE: Patentin version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: ANGIOGENIC FACTOR AND USE THEREOF TITLE OF INVENTION: IN TREATING CARDIOVASCULAR DISEASE ONRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SE: Blank, Rome, Comisky & McCauley LLP 900 17th Street, N.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ); DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME: Cohen, Herbert
REGISTRATION NUMBER: 25,109
REFERENCE/DOCKET NUMBER: 0274.005/P003
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
MEDIUM TYPE: storage
COMPUTER: IBM Compatible
OPERATING SYSTEM: IBM P.C. DOS 5.0
SOFTWARE: FASTEED for Windows 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 59;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US/08/784,551C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 2, Application US/08784551C Patent No. 6013780
                                                                                                                                 Sequence 2, Application US/09519476 Patent No. 6506884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      January 21, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  75.6%;
78.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Israel Vlodavsky APPLICANT: Zoya Poltorak
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (202) 463-7700
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CNSEMRECVPTEES 14
                    61 CNDEGLECVPTEES 74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 CNSEMRECVPTEES 14
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Best Local Similarity 78.6
Matches 11; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION: 514
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eli Keshet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Suite 1000
                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
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LENGTH: 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY:
                                                                                                RESULT 11
US-09-519-476-2
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RESULT 15
US-09-037-983C-2
Sequence 2, Septimization Sequence 3, S
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Best Local Similarity 78.6%; Pred. No. 0.046;
Matches 11; Conservative 0; Mismatches 3; Indels
                                                              Indels
Pred. No. 0.046;
0; Mismatches
Best Local Similarity 78.6%;
Matches 11; Conservative
                                                                                                                                                                              TYPE: PRT
GOGANISM: Homo sapiens
US-09-037-983C-2
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Gaps

· ...

Search completed: July 24, 2003, 14:51:29 Job time: 17.9412 secs

δ

# GenCore version 5.1.6 Copyright (c) 1993 .- 2003 Compugen Ltd.

OM protein - protein search, using sw model

July 24, 2003, 14:42:56 ; Search time 10.7059 Seconds Run on: 125.759 Million cell updates/sec

PEP1 78 1 CNSEMRECVPTEES 14 Title: Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

283308 segs, 96168682 residues Searched:

283308 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

pir1:\* pir2:\* pir3:\* pir4:\* PIR\_76: Database:

by chance to have a the result being printed score greater than or equal to the score of the result beir and is derived by analysis of the total score distribution is the number Pred. No.

### SUMMARIES

	Description	vascular endotheli	vascular endotheli	vascular endotheli	ovine vascular end	vascular endotheli	vascular endotheli	glioma-derived vas	vascular endotheli	vascular endotheli	aminotransferase,	hypothetical prote	hypothetical prote	protein-tyrosine-p	serine proteinase	hypothetical prote	hypothetical prote	protein p84 - huma	NADPH-cytochrome P	hypothetical prote	hypothetical prote	thyrotropin beta c	thyrotropin beta c	thyrotropin beta c	hypothetical prote	hypothetical prote	signal recognition	conserved hypothet	complement C9 prec	sec-7 cytohesin-li
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~ ~	ID	A41551;	A33787	B49530	S57956	B40080	B44881	A35987	A44881	S52130	H82448	E84373	S50943	JC5290	534583	AB1800	T24867	A53545	JE0230	T04015	T34513	TTHUB	TIBOB	TTPGB	T24604	T49748	C81718	B72361	С9ни.	T38294
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	Query Match Length	232	120	133	146	190	190	190	214	190	389	-276	1361	1436	1548	191	217	657	713	1106	3507	138	. 138	138	249	300	448	459	559	099
, e	Query	75.6	73.1	73.1	73.1	73.1	71.8	71.8	71.8	70.5	53.8	52.6	51.3	51.3	51.3.	50.6	50.0	- 50.0	50.0	50.0	20.0	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7
	Score	59	57	57	57	57	26	26	26	. 55	42	41	40	40	40	39:2	39	39	39	39	39.	38	38	38	38	. 38	38	38	38	38
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-references: 'GB:M63971; GB:M63972; GB:M63974; GB:M63974; GB:M63975; GB:M6397

-165,183-232 <TI1>

Molecule type: DNA Accession: B40454

;Residues: 1.140, NY,183-232 <TI2> ;Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M639; ;Accession: C40454

Residues: 1-141,227-232 <TI3> Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M639

S.D.; Krivi, G.; Sanzo, K.; Warren, T.; Feder, J.; Connolly,

A;Title: Vascular permeability factor, an endothelial cell mitogen related to PDGF A;Reference number: A40079; MUID:90069609; PMID:2479987 A;Accession: A40079

not compared with conceptual translation

-165,183-232 <KEC>

Title: Vascular endothelial growth factor is a secreted angiogenic mitogen. ;Cross-references: GB:M27281; NID:9340300; PIDN:AAA36807.1; PID:9340301; Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N. cience 246, 1306-1309, 1989

NADPH-ferrihemopro	hypothetical prote	hypothetical prote	hypothetical prote	. unknown protein en	eHAND - mouse	hypothetical prote	hypothetical prote	hypothetical prote	unknown protein en	cis, cis-muconate t	. vascular endotheli	probable signal re	jararhagin C precu	catrocollastatin p	hypothetical prote	•
-	756 2 T00367	43 1 QQEC32	Ç	01 2 Н85910	16 2 IS3100	7	79 2 E97138	45 2 E90817	45 2 A85677	7	7	~	7	7	84 2 T45697	*.
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30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	

# ALIGNMENTS

	RESULT 1	
	A41551	
	vascular	vascular endothelial growth factor 206 precursor – human
	N;Altern	N; Alternate names: vascular permeability factor
	N;Contai	N;Contains: vascular endothelial†growth factor 121 (VEGF 121); VEGF 165; VEGF 189;
	C; Specie	C;Species: Homo sapiens (man)
_	C; Date:	C;Date: 28-Aug-1992 #sequence_revision 28-Aug-1992 #text_change 05-Nov-1999
	C; Access	C;Accession: A41551; C41551; B41551; A40454; B40454; C40454; A40079; A40080; JQ146
_	R; Houck,	R; Houck, K:A.; Ferrara, N.; Winer, J.; Cachianes, G.; Li, B.; Leung, D.W.
	Mol. End	Mol. Endocrinol. 5, 1806-1814, 1991
	A; Title:	A; Title: The vascular endothelial growth factor family: identification of a fourth
	A; Refere	A; Reference number: A41551; MUID: 92168017; PMID:1791831
	A; Access	A; Accession: A41551
	A; Molecu	A; Molecule type: mRNA
	A; Residu	A; Residues: 1-232 <hou1></hou1>
	A;Cross-	A; Cross-references: GB:S85192; NID:9246155; PID:9246156
•	A; Access	A; Accession: C41551
_	A;Status	A; Status: nucleic acid sequence not shown
	A; Molecu	A; Molecule type: mRNA
	A; Residu	A; Residues: 1-140,'N', 183-232 <hou2></hou2>
_	A; Access	A; Accession: B41551
	A; Status	A; Status: nucleic acid sequence not shown; not compared with conceptual translation
	A; Molecu	A; Molecule type: mRNA
	A; Residu	A; Residues: 1-141, 227-232 <hou></hou>
_	R; Tische	R;Tischer, E.; Mitchell, R.; Harjtman, T.; Silva, M.; Gospodarowicz, D.; Fiddes, J.O
_	J. Biol.	Biol. Chem. 266, 11947-11954, 1991
	A; Title:	A; Title: The human gene for vascular endothelial growth factor. Multiple protein fo
_	A; Refere	A; Reference number: A40454; MUID: 91268072; PMID: 1711045
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a new member of the platelet derived gro
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Residues: 1-190 <LED>
A; Residues: 1-190 <LED>
A; Cross references: GB:M32976; NID:9163006; PIDN:AAA30502.1; PID:9163007
A; Cross references: GB:M32976; NID:9163006; PIDN:AAA30502.1; PID:9163007
R; Tischer, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Biochem. Biophys. Res. Commun. 165, 11989
A; Title: Vascular endothelial growth factor: a new member of the platelet-derived g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
       Page
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A;Reference number: A40080; MUID:90069608; PMID:2479986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (domestic sheep)
#text_change 05-Nov-1999
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C;Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 05-Nov-1999
                                                                                                                                                                                                                                                                                                                                                                                              C.Species: Orf virus
C.Date: 07-Apr-1994 *sequence_revision 18-Nov-1994 *text_change 08-Oct-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Note: sequence inconsistent with nuclectide translation
A; Note: sequence extracted from NCBI backbone (NCBIN:141426, NCBIP:141425)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PIDN: AAB29220.1; PID:9456899
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                                                                                                                                                                                                                                                                                                                                                      vascular endothelial growth factor, homolog A2R, 14.7K - Orf virus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R;Redmer, D.A.; Dai, Y.; Li, J.; Jones, S.C.; Moor, R.M. submitted to the EMBL Data Library, July 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Reference number: A33787; MUID:90121225; PMID:2610687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ovine vascular endothelial growth factor - sheep
C;Species: Ovis orientalis aries
C;Date: 13-Jan-1996 #sequence_revision 01-Mar-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 57; DB 2; (Pred. No. 0.029;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 57; DB 2;
Pred. No. 0.027;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rittle, D.J.; Fraser, K.M.; Fleming, S.B.; J. Virol. 68, 84-92, 1994
A; Title: Homologs of vascular endothelial gro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C.Accession: B40080; B33787; A33255
R.Leung, D.W.; Cachianes, G.; Kuang,
Science 246, 1306-1309, 1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                vascular endothelial growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            73.1%;
76.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Cross-references: EMBL: X89506;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           73.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              76.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Molecule type: DNA
A;Residues: 1-133 <LYT>
A;Cross-references: GB:S67520;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 CNSEMRECVPTEE 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     71 CNDESLECVPTEE 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 CNSEMRECVPTEE 13
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A; Accession: S57956
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Best Local Similarity
Matches 10; Conserv
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A; Residues: 1-146 <RED>
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A; Status: preliminary
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pepl.rpr
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      *Reywords: alternative splicing; angiogenesis; dimer; disulfide bond; extracellular profits 1-232/Product: vascular endothelial growth factor 206 precursor #status predicted <V26.1-165,183-232/product: vascular endothelial growth factor 189 precursor #status predicted <1.1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status predicted <1.1-26/pomain: signal sequence #status predicted <SIG>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Schilling, J.; Lau, K.; Crisp
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A;Title: Vascular endothelial growth factor: a new member of the platelet-derived growth A;Reference number: A33787; MUID:90121225; PMID:2610687
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ochem. Biophys. Res. Commun. 183, 1167-1174, 1992
Title: AIDS-associated Kaposi's sarcoma cells in culture express vascular endothelial
Reference number: J01463; MUID:92231879; PMID:1567395
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Comment: The most common of several alternatively spliced forms is VEGF 165.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Species: Bos primigenius taurus (cattle)
Date: 16-Mar-1990 #sequence_revision 16-Mar-1990 #text_change 05-Nov-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Residues: 1-140,'N',183-232 <WEI>
Cross-references: EMBL:X62568; NID:g37659; PIDN:CAA44447.1; PID:g37659
Experimental source: AIDS-Kaposi's sarcoma cell
                                                                                                                                                                                                                                                                                                                                                                                  Cross-references: GB:M32977; NID:9181970; PIDN:AAA35789.1; PID:9181971
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C:Keywords: alternative splicing
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                                                                                                                                                                                         A;Reference number: A40080; MUID:90069608; PMID:2479986
A;Accession: A40080
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0.024;
                                                                                                                                                                                                                                                                       compared with conceptual translation
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Pred. No. (
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GDB:132244; OMIM:192240
                                                                                                                                                                                                                                                                                                                                                                                                                             Weindel, K.; Marme, D.; Weich, H.A.
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Residues: 1-140,'N',227-232 <WE2>
                                                                                                                                                                                                                                                                                                                                              -140,'N',183-232 <LEU>
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78.6%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60 CNDESLECVPTEE 72
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Matches 10; Conservat
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Best Local Similarity
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A;Molecule type: mRNA
A;Residues: 1-120 <TIS>
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R;Sugihara, T.; Kaul, S.C.; Mitsui, Y.; Wadhwa, R.
Biochim. Biophys. Acta 1224, 365-370, 1994
A;Title: Enhanced expression of multiple forms of VEGF is associated with spontanex
A;Reference number: S52136; MUID:95101726; PMID:7803491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: GB:S38100; NID:g249860; PIDN:AAB22254.1; PID:g249861
A;Note: sequence extracted from NCBI backbone (NCBIN:107624, NCBIP:107625)
R;Clauss, M.; Gerlach, M.; Gerlach, H.; Brett, J.; Wang, F.; Familletti, P.C.; Pan.
J. Exp. Med. 172, 1535-1545, 1990
J. Exp. Med. 172, 1535-1545, 1990
A;Title: Vascular permeability factor: a tumor-derived polypeptide that induces ence A;Reference number: A60932; MUID:91079755; PMID:2258694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Title: Expression of vascular endothelial growth factor during embryonic angloger
A;Reference number: A44881; MUID:92274860; PMID:1592003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C:Keywords: alternative splicing; angiogenesis; disulfide bond; glycoprotein; homov F;1-26/Domain: signal sequence #status predicted <SIG>
                 Proc. Natl. Acad. Sci. U.S.A. 87; 2628-2632, 1990
A;Title: Amino acid and cDNA sequences of a vascular endothelial cell mitogen that
A;Reference number: A35987; MUID:90207249; PMID:2320579
D.D.; Kwok, P.W.; Sullivan, K.A.; Palisi, T.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C;Species: Mus musculus (house mouse)
C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 08-Oct-1999
C;Accession: A44881; C44881; A60932; S52136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Note: sequence extracted from NCBI backbone (NCBIN:104677, NCBIP:104678)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Cross-references: GB:S37052; NID:9249856; PIDN:AAB22252.1; PID:9249857
                                                                                                                                                                                                                        A;Cross-references: GB:M32167; NID:g204287; PIDN:AAA41211.1; PID:g204288
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                                                                                                                                                                                                                                                                                Length 190;
                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N; Contains: vascular endothelial growth factor-2; vascular
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Pred. No. 0.06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RiBreier, G.; Albrecht, U.; Sterrer, S.; Risau, W. Development 114, 521-532, 1992
                                                                                                                                                                                                                                                                                   <u>B</u>
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                                                                                                                                                                                                                                                                                                                                          0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   vascular endothelial growth factor-3 precursor
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Pred. No.
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     M.L.; Soderman,
                                                                                                                                                                                                                                                                                71.88;
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Residues: 1-140,209-214
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A; Residues: 27-46 <SUG>
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Matches 10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Residues: 1-214 <BRE>
                                                                                                                                      A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-190 <CON>
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                                                                                                                  A; Accession: A35987
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                                                                                                                                                                                                                                                                                   Query Match
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     R; Conn,
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                                                                                                                        A;Title: Pitultary follicular cells secrète a novel'heparin-binding growth factor specif
A;Reference number: A33255; MUID:89286596; PMID:2735925
A;Accession: A33255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Title: Expression of vascular endothelial growth factor during embryonic angiogenesis Reference number: A44881; MUID:92274860; PMID:1592003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claffey, K.P.; Wilkison, W.O.; Spiegelman, B.M.
Blol. Chem. 267, 16317-16322, 1992
Title: Vascular endothelial growth factor. Regulation by cell differentiation and acti
Reference number: A43351; WUID:9235593; PMID:1644816
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C; Keywords: alternative splicing; anglogenesis; dimer; disulfide bond; glycoprotein; mit
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                                                                                                                                                                                                                                                                                   C; Keywords: alternative splitting, yelveroficed <SIG>
F;1-26/Domain: signal sequence #status predicted <AIT>
F;27-190/Product: vascular: endothelial growth factor #status predicted <AAIT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Species: Mus musculus (house mouse)
Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 05-Nov-1999
Accession: B44881; A43351; A61029
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C.Date: 16-Nov-1990 #sequence_revision 16-Nov-1990 #text_change 05-Nov-1999
C.Accession: A35987
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
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                          Residues: 27-190 <TIS>
Cross-references: GB:M1836; NID:g163808; PIDN:AAA30804.1; PID:g163809
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 2; Length 190;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             vascular endothelial growth factor-1 precursor - mouse
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Pred. No. 0.037;
); Mismatches
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                                                                                                               ochem. Biophys. Res. Commun. 161, 851-858, 1989
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Pred. No. 0.054
0; Mismatches
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Residues: 1-116,'ER',119-190 <CLA>
                                                                                                                                                                                                                           A;Molecule type: protein
A;Residues: 27-31 <FER>
C;Reywords: alternative splicing;
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Llarity 71.4%;
Conservative
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76.98;
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                                                                                          Ferrara, N.; Henzel, W.J
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Matches 10; Conserv
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hes 10; Conserv
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A;Title: Molecular cloning and characterization of a novel human receptor protein tyn
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Comment: This enzyme belongs to type II receptor protein tyrosine phosphatase which
and an immunoglobulin-like domains.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Cross-references: EMBL:247816; NID:g642303; PIDN:CAA87825.1; PID:g642306; MIPS:YML0
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                       C; Species: Saccharomyces cerevisiae
C; Date: 10-Feb-1995 #sequence_revision 12-May-1995 #text_change 29-Oct-1999
C; Accession: S50943
A; Reference number: S50941
A; Recession: S50943
A; Molecule type: DNA
A; Residues: 1-1561 < ODE>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Date: 16-Apr:1997 #sequence_revision 09-May-1997 #text_change 21-Jan-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F;903-1123/Domain: protein tyrosine-phosphatase homology <PTP1>
F;1193-1418/Domain: protein tyrosine-phosphatase homology <PTP2>
F;1035/Active site: Cys (phosphocysteine intermediate) #status predicted F;1081/Binding site: substrate phosphate (Arg) #status predicted F;1370/Active site: Cys (phosphocysteine intermediate) #status predicted F;1376/Active site: Substrate phosphate (Arg) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F;22-188/Domain: MAM homology < MAM>
F;203-266/Domain: immunoglobulin homology < IMM>
F;208-366/Domain: immunoglobulin homology < IFPS
F;288-366/Domain: fibronectin type III repeat homology < 3FR>
F;826-1436/Domain: leukocyte common antigen cytosolic domain homology
                                                                                                                                                                                                                                                                                                                                              yeast (Saccharomyces cerevisiae)
protein YM9827.03c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C; Accession: JC5290
R; Wang, B.; Kishihara, K.; Zhang, D.; Hara, H.; Nomoto,
Biochem. Biophys. Res. Commun: 231, 77-81, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Reference number: JC5290; MUID: 97223402; PMID: 9070223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 40; DB 2; Ler
Pred. No. 1.4e+02;
                                    ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3.1.3.48) - human
                              ore 41; DB 2
ed. No. 23;
Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Cross-references: SGD:S0004513; MIPS:YML049c
                                       Score 41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                51.3%; Score 40;
                                                                  Pred.
                                 52.6%;
58.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           51.3%;
50.0%;
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                                                                                                                                                                                                                                                                                                                                                                                     N; Alternate names: hypothetical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 CNSEMRECVPTEES 14
                              Query Match 52.6
Best Local Similarity 58.3
Matches 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 51.3
Best Local Similarity 50.0
Matches 7; Conservative
                                                                                                                                                3 SEMRECVPIEES 14
                                                                                                                                                                              SELRECVDVQDS 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Species: Homo sapiens (man)
                                                                                                                                                                                                                                                                                                                                                       hypothetical protein YML049c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Molecule type: mRNA
Residues: 1-1436 <WAN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Map position: 13L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Accession: JC5290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Gene: SGD: RSE1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
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Proc. Natl. Acad. Sci. US.A. 97, 12176-12181, 2000
A; Authors: Hou, S.; Daniels, C.J.; Dennis, P.P.; Omer, A.D.; Ebhardt, H.; Lowe, T.M.; Li A; Ritle: Genome sequence of Halobacterium species NRC-1.
A; Reference number: A84160; MUID:20504483; PMID:11016950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A:Cross-references: GB:AE004383; GB:AE003853; NID:99657927; PIDN:AAF96426.1; GSPDB:GN001
A:Experimental source: serogroup 01; strain N16961; biotype El Tor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        aminotransferase, class II VCA0523 [imported] – Vibrio cholerae (strain N16961 serogroup
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R;Heidelberg, J.F.; Eisen, J.A.; Nelson, W.C.; Clayton, R.A.; Gwinn, M.L.; Dodson, R.J. chardson, D.; Ermolaeva, M.D.; Vamathevan, J.; Bass, S.; Qin, H.; Dragoi, I.; Sellers, I. R.R.; Mekalanos, J.J.; Venter, J.C.; Fraser, C.M.
Nature 406, 477-483, 2000
                                                                           R.Sharma, H.S.; Tang, Z.H.; Gho, B.C.G.; Verdouw, P.D.
Biochim. Biophys. Acta 1260, 235-238, 1995
A;Title: Nucleotide sequence and expression of the porcine vascular endothelial growth A;Reference number: S52130; MUID:95143284; PMID:7841203.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Title: DNA Sequence of both chromosomes of the cholera pathogen Vibrio cholerae. Reference number: A82035; MUID:20406833; PMID:10952301 Accession: H82448
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C;Species: Sus scrofa domestica (domestic pig)
C;Date: 14-Jul-1995 #sequence_revision 21-Jul-1995 #text_change 05-Nov-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Species: Halobacterium sp. NRC-1
Date: 02-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 02-Feb-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Species: Vibrio cholerae
Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change 02-Feb-2001
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                                                                                                                                                                                                                                                         A; Molecule type: mRNA
A; Residues: 1-190 <SHA>
A; Cross-references: GB:X81380; NID:9587559; PIDN:CAA57143.1; PID:9587560
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                                                                                                                                                                                                                                                                                                                                                                                  Length 190
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21;
                                                                                                                                                                                                                                                                                                                                                                            DB 2;
0.079;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 42;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                         Score 55;
Pred. No.
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60.0%;
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247 CNNEVNRCVP 256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 CNSEMRECVP 10
                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: DNA
A; Residues: 1-389 <HEI>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity
Matches 6; Conserv
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Residues: 1-276 <STO>
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Molecule type: DNA
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                                                      Accession: S52130
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Gaps

.; 0

Indels

Length 1361;

predicted

Length 1436;

pepl.rpr

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R;Glaser, P.; Frangeul, L.; Buchrieser, C.; Amend, A.; Baquero, F.; Berche, P.; Bloecker.; Dominguez-Bernal, G.; Duchaud, E.; Durand, L.; Dussurget, O.; Entian, K.D.; Fsihi, H. Science 294, 849-852, 2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Authors: Kréft, J.; Kuhn, M.; Kunst, F.; Kurapkat, G.; Madueno, E.; Maitournam, A.; Ma
ov, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-Boland, J.A.; Voss, H.; Wehland,
A;Title: Comparative genomics of Listeria species.
A;Reference number: AB1077; MUID:21537279; PMID:11679669
                                                                                                                                                                                                                                                                                                                                                  R;Nakagawa, T.; Murakami, K.; Nakayama, K.
PEBS Lett. 327, 155-171, 1993
A;Title: Identification of an isoform with an extremely large Cys-rich region of PC6, a
A;Reference number: S34583; MUID:93327934; PMID:8335106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Molecule type: mRNA
A;Residues: 11-1548 (AMR>>
A;Crosa-references: GB:D17583; NID:9407344; PIDN:BAA04507.1; PID:d1005033; PID:9440374
C;Reywords: hydrolase; serine proteinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: GB:AL592022; PIDN:CAC98170.1; PID:g16415486; GSPDB:GN00178
A;Experimental source: strain Clip11262
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             - Listeria innocua (strain Clip11262)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ss: Listeria innocua
27-Nov-2001 #sequence_revision 27-Nov-2001 #text_change 27-Nov-2001
                                                                                                                                                                                                                                                                                                 C; Date: 02-Dec-1993 #sequence_revision 10-Nov-1995 #text_change 05-Nov-1999 C; Accession: S34583
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                          0; Gaps
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Pred. No. 1.5e+02;
2; Mismatches 3; Indels
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Pred. No. 1.6e+02;
2; Mismatches 3
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                                                                                                                                                                                                                                                    serine proteinase (EC 3.4.21.-) PC6B - mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ypothetical protein lin2945 [imported]
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                                                                                                                                                                                                                                                                                 Species: Mus musculus (house mouse)
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Best Local Similarity 52.9%;
Matches 9; Conservative 2
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Best Local Similarity 58.3%;
Matches 7; Conservative
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Best Local Similarity 58.3*
The Conservative
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702 DSEYEECMPCEE 713
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432 NQTIRECVKTEQ 443
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Status: preliminary
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Search completed: July 24, 2003, 14:50:48 Job time: 11.7059 secs

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GenCore version 5.1.6
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OM protein - protein search, using sw model

July 24, 2003, 14:08:59; Search time 10.7059 Seconds Run on:

(without alignments)
61.496 Million cell updates/sec

PEP1 78 ·1 CNSEMRECVPTEES 14 Title: Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

127863 seqs, 47026705 residues Searched: Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

SwissProt\_41:\* Database : Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed and is derived by analysis of the total score distribution.

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Description (	P15692 homo sapien	orf v	P50412 ovis aries	P26617 cavia porce	Ξ.	Q00731 mus musculu	P16612 rattus norv	P49151 sus scrofa	Q9myv3 canis famil	Q99ps1 mesocricetu	Q9gkr0 equus cabal	Q04693 saccharomyc	Q92729 homo sapien	Q04592 mus musculu	P01223 bos taurus	Q28376 equus cabal	homo	lame	sns	P48770 equus cabal.	P02748 homo sapien	Q05001 catharanthu		013817 schizosacch	Q9xs47 bos taurus		Q90691 gallus gall	_	. P57102 brachydanio	P57101 xenopus lae		P57100 oryctolagus	064279 m heart- an
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SUMMARIES	VEGA HUMAN	VEGH_ORFN2	VEGA_SHEEP	CAVPO_	BOVIN	VEGA_MOUSE	RAT	_PIG	CANFA	MESAU	VEGA_HORSE	YME9_YEAST	HUMAN-	PCK5_MOUSE	BOVIN	TSHB_HORSE	LSHB_HUMAN	TSHB_LAMGL	_PIG	CO9_HORSE	CO9_HUMAN	NCPR_CATRO	EFER_HUMAN	SC73_SCHPO	PLGF_BOVIN	XENLA	HAN1_CHICK	HAN1_SHEEP	BRARE	HANZ_XENLA	HUMAN	HAN1_RABIT	HAN1_MOUSE
IS QI	VEGA	VEGH	VEGA	VEGA_	VEGA	VEGA	VEGA_RAT	VEGA_PIG	VEGA_	VEGA	VEGA	YME9	PTPU_	PCK5	TSHB_	TSHB	TSHB	TSHB	TSHB_PIG	600	_ 60 50	NCPR.	EFER	SC73	PLGF.	HANI	HANI	HANI	HAN2_	HAN2	HAN1_	HANT	HAN1
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Length	232	133	146	164	190	214	214	190	214	190	190	1361	1430	1877	138	138	138	138	138	547	559	714	756	1082	149	197	202	204	208	210	215	215	216
% Query Match	75.6	73.1	73.1	73.1	73.1	71.8	71.8	70.5	70.5	65.4	62.8	51.3	51.3	51.3	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	47.4	47.4	47.4	47.4	47.4	47.4	47.4	47.4	47.4
Score	59	57	57	57	. 57	26	. 56	52	55	51	. 49	40	40	40	38	38	38	38	38	38	38	38	38	38	37	37	37	37	37	37	37	37	37
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# ALIGNMENTS

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Heterogeneous vascular endothelial growth factor (VEGF) isoform mRNA
Poltorak Z., Cohen T., Sivan R., Kandelis Y., Spira G., Vlodavsky I., Keshet E., Neufeld G.;
"VEGF145, a secreted vascular endothelial growth factor isoform that
                                                                                                                                                                                                                                                                                                               untranslated region mediating
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Kochs G., Marme D., Hug H., Weich H.A.;
                                                                                                                                                                                                                                                                                                                                                                              OF 114-209 FROM N.A. (ISOFORM VEGF183).
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                                                binds to extracellular matrix.";
J. Biol. Chem. 272:7151-7158(1997).
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MEDLINE-99394945; PubMed-10464055;
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MEDLINE-99096474; PubMed-9878851;
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MEDLINE-98119755; PubMed-9450968;
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Wiesmann C., Christinger H.W., Cochran A.G., Cunningham B.C., Fairbrother W.J., Keenan C.J., Meng G., de Vos A.M.; "Crystal structure of the complex between VEGF and a receptor-blocking
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"Synthesis and assembly of functionally active human vascular endothelial growth factor homodimers in insect cells."; Eur. J. Biochem. 211:19-26(1993).
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Pairbrother W.J., Champe M.A., Christinger H.W., Keyt B.A.,
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Fairbrother W.J., Champe M.A., Christinger H.W., Keyt B.A.,
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MEDLINE=98035455; PubMed=9351807;
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                                                                                                                                                 OF 34-135
                                                                                                                                                                                    MEDLINE-97352774; Pubmed-9207067;
Muller Y.A., Li B., Christinger H.W.,
                                                                                                                                                     X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS)
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Murphy J.F., Fitzgerald D.J.;

"Vascular endothelial growth factor induces cyclooxygenase-dependent "vascular endothelial growth factor active in angiogenesis, vasculogenesis and endothelial cell growth it induces endothelial cell growth. Tit induces endothelial cell growth it induces permeabilization of blood vessels. It binds to the induces permeabilization of blood vessels. It binds to the vEGFRI/Flt-1 and VEGFRZ/Kdr receptors and to heparan sulfate and heparin. Neuropilin-1 binds isoforms VEGF-165 and VEGF-145.

--- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (By similarity).

--- SUBCELULAR LOCATION: VEGFI21 is acidic and freely secreted. VEGFI65 is more basic, has heparin-binding properties and, although a signicant proportion remains cell-associated, most is freely secretion and is bound avidly by heparin and the extracellular matrix, although it may be released as a soluble form by heparin, heparinse or plasmin.

--- ALTERNATIVE PRODUCTS:

Event-Alternative splicing; Named isoforms-7;

Comment-Experimental confirmation may be lacking for some isoforms;

Name-VEGF206;

Isold-PIS69-1; Sequence-Displayed;

Name-VEGF206.

IsoId-P15692-2; Sequence-VSP\_004622;

146 AA.

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STANDARD;
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146 AA;
                                                                                   Ovis aries (Sheep).
                                                                                                                                                SEQUENCE FROM N.A.
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                                                                       VEGF OR VEGFA.
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                               Gaps
                                                                                                                                                                                                                                                                          Lyttle D.J., Fraser K.M., Fleming S.B., Mercer A.A., Robinson A.J.; "Homologs of vascular endothelial growth factor are encoded by the
                                                                                                                                                                                                 Orf virus (strain N22) (OV N2-2).
Viruses; dsDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;
                                                                                                                                                                                                                                                                                                        . Virol. 68:84-92(1994).
1- FUNCTION: INDUCES ENDOTHELIAL PROLIFERATION.
1- SUBUNIT: Homodimer; disulfide-linked (By similarity).
1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ыликы (GLCNAC. . .) (POTENTIAL).
917C0F6883030C39 CRC64:
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VASCULAR ENDOTHELIAL GROWTH FACTOR
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        Score 59; DB 1; Length 232; Pred. No. 0.0073; O; Mismatches 3; Indels
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N-LINKED (GLCNAC. ) (POT
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                                                                                                                                             01-07T-1996 (Rel. 34, Created)
01-0CT-1996 (Rel. 34, Last sequence update)
16-0CT-2001 (Rel. 40, Last annotation update)
Vascular endothelial growth factor homolog precursor.
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14715 MW;
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        Query Match 75.6%;
Best Local Similarity 78.6%;
Matches 11; Conservative
                                                             EMBL; S67520; AAB29220.2; -
                                              1 CNSEMRECVPTEES 14
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Best Local Similarity 76.9
Matches 10; Conservative
                                                                                                                           STANDARD;
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use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           factor (VEGF) in the ovine corpus luteum.";
J. Reprod. Fertil. 108:157-165(1996).
-!- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on use by non-profit institutions as long as its content is in no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VEGERI/Fit-1 and VEGERZ/Kdr receptors and to heparan sulfate and heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PiGF (By similarity).
SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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SIGNAL 1 26 BY SIMILARITY.
CHAIN 27 146 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
DISGLEID 51 93 BY SIMILARITY.
ATSHILE 82 127 BY SIMILARITY.
129 BY SIMILARITY.
THERE 129 BY SIMILARITY.
01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
01-OCT-1996 (Rel. 41, Last sequence update)
Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       'Characterization and expression of vascular endothelial growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (POTENTIAL)
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PROSITE; PS50278; PDGF_2; 1.
ditogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
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N-LINKED (GLCNAC. .) (POT
4E792CB557F91760 CRC64;
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Pred. No. 0.01;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            164 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; X89506; CAA61677.1; E.
HSR; S57956; S57956.
HSRS; P156922; 1VPP.
InterPro; IPR000072; PD_grówth_factor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pfam; PF00341; PDGF; 1.
ProDom; PD001629; PD_growth_factor; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                            TISSUE=Kidney;
MEDLINE=97117958; PubMed=8958842;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17247 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                76.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Redmer D.A., Dai Y., Li J. Reynolds L.P., Moor R.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 CNSEMRECVPTEE 13
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Matches 10; Conservative
                                                                                                                                                                                                                                                                                                 Bovidae; Caprinae; Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
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ID VEGA_CAVPO
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Bovidae; Bovinae; Bos.
                  NCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Name-Alpha;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Name-Beta;
                                                                                                                mitogen.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DISULFID
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                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                 SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PLGR [By similarity).
SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                            01-AUG-1992 (Rel. 23, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A (VEGF-A) (Vascular permeability factor) (VPF)
                                                                                                                                                                                                                     Berse B.;
Submitted (JAN-1992) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: Growth factor active in angiogenesis, and endothelial
cell growth. Induces endothelial proliferation and vascular
permeability (By similarity).
                                                                                                                                                                                                                                                                                                                                                                 similarity).
-!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                        Cavia porcellus (Guinea pig).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-APR-1990 (Rel. 14, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bos taurus (Bovine).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTENTIAL).
9EBB6A81A9D5DCA4 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 57; DB 1; Length 164;
Pred. No. 0.011;
); Mismatches 3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Glycoprotein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BY SIMILARITY.
BY SIMILARITY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
Mitogen; Angiogenesis; Growth factor;
DISULFID 25 67 SIMILA
DISULFID 56 101 BY SIMILA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ProDom; PD001629; PD_growth_factor; (1 SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-APR-1990 (Rel. 14, Created)
                  Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19330 MW;
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76.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ouery Match
Best Local Similarity 76.2.
10, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 CNSEMRECVPTEE 13
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           01-AUG-1992 (Rel. 23,
01-AUG-1992 (Rel. 23,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                164 AA;
                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                         NCBI_TaxID=10141;
                                                                                                                                                                                                         TISSUE-Bile duct;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VEGF OR VEGFA.
                                                                                            VEGF OR VEGFA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           P15692
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P15691;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DISULFID
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ferrara N., Henzel W.J.;

"Pitultary follicular cells secrete a novel heparin-binding growth factor specific for vascular endothelial cells."

Blochem. Blochys. Res. Commun. 161:851-858 [1989].

--- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell prowth. It induces endothelial cell promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFRI/Fit-1 and VEGFRZ/Kdr receptors and to heparan sulfate and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             associated to cells or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
                                                                                                                                                                                                                                                                                                                                Tischer E., Gospodarowicz D., Mitchell R., Silva M., Schilling J., Lau K., Crisp T., Fiddes J.C., Abraham J.A.;
Vsscular endothelial growth factor: a new member of the platelet-derived growth factor gene family.";
Biochem. Biophys. Res. Commun. 165:1198-1206(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ISOId=P15691-2; Sequence=VSP_004613, VSP_004614; SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VASCULAR ENDOTHELIAL GROWTH FACTOR A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N'EINKED (GLCNAC. . ) (POTENTIAL).
Missing (in isoform Beta).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 with PIGF (By similarity).
SUBCELLULAR LOCATION: Secreted but remains associated to ce to the extracellular matrix unless released by heparin (By
                                                                        Leung D.W., Cachianes G., Kuang W.-J., Goeddel D.V., Ferrara "Vascular endothelial growth factor is a secreted anglogenic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE; PS00249; PGGF_1; 1; PROSITE; PS50278; PDGF_2; 1. Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Heparin-binding; Alternative splicing; Multigene family.
                                                                                                                                                                                                                                                                    SEQUENCE OF 27-190 FROM N.A., (ISOFORMS ALPHA AND BETA).
MEDLINE-90121225; PubMed-2610687;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Event=Alternative splicing; Named isoforms=2;
SEQUENCE FROM N.A., AND SEQUENCE OF 27-47.
MEDLINE=90069608; PubMed=2479986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IsoId=P15691-1; Sequence=Displayed;
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Pfam; PF00341; PDGF; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF 27-31.
MEDLINE-89286596; PubMed=2735925;
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                                                                                                                                                                                        Science 246:1306-1309(1989)
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EMBL; M33750; AAA30805.1; -
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ALTERNATIVE PRODUCTS:
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127
129
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HSSP; P15692; 1VGH:
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PIR;
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- FUNCTION: Growth factor active in anglogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell prowth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the induces permeabilization of blood vessels. It binds to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE SPECIFICITY: In developing embryos, expressed mainly in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SUBCELLULAR LOCATION: VEGF-1 and VEGF-3 are secreted while VEGF-3 remains cell-surface associated unless released by heparin.
                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               choroid plexus, paraventricular neuroepithelium, placenta and kidney glomeruli. Also found in bronchial epithelium, adrenal gland and in seminiferous tubules of testis. High expression of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDIINE-92274860; PubMed-1592003; Risau W.; Breier G., Albrecht U., Sterrer S., Risau W.; Expression of vascular endothelial growth factor during embryonic angiogenesis and endothelial cell differentiation."; Development 114:521-532(1992).
                                                                                                                                                                                                                                                                                                                           15-SEP-2003 (Rel. 42, Last annotation update)
Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
permeability factor) (VPF).
                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE-96216498; PubMed-8632007; Shima D.T., Kuroki M., Deutsch U., Ng Y., Adamis A.P., D'Amore P. The mouse gene for vascular endothelial growth factor. Genomic structure, definition of the transcriptional unit, and characterization of transcriptional and post-transcriptional
                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-92355593; PubMed-1644816;
Claffey K.P., Wilkison W.O., Spiegelman B.M.;
"Vascular endothelial growth factor. Regulation by cell
differentiation and activated second messenger pathways.";
                                                                                Length 190;
                                                                                                               3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A. (ISOFORMS VEGF-1; VEGF-2 AND VEGF-3)
               R -> K (in isoform Beta).
/FTId=vSP_004614.
EDBF903E46E24789 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VSP_004627;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Event-Alternative splicing; Named isoforms-3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               with PIGF (By similarity).
SUBCELLULAR LOCATION: VEGF-1 and VEGF-2 are
                                                                              57; DB 1;
No. 0.013;
/FTId=VSP_004613.
                                                                                                                                                                                                                                                                                                             Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                 214 AA.
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                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IsoId=Q00731-3; Sequence=VSP_004628;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IsoId-Q00731-1; Sequence-Displayed;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Biol. Chem. 267:16317-16322(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A. (ISOFORM VEGF-1).
                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               regulatory sequences.";
J. Biol. Chem. 271:3877-3883(1996).
                                                                                Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Name=VEGF-1; Synonyms=VEGF164;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Synonyms-VEGF120;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Name=VEGF-3; Synonyms=VEGF188;
                                                                                                                                                                                                                                                                                            01-APR-1993 (Rel. 25, Created)
                                                22310 MW;
                                                                              73.1%;
76.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               heparin (By similarity)
                                                                                                                                                1 CNSEMRECVPTEE 13
                                                                                                                                                                 86 CNDESLECVPTEE 98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE OF 1-3 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ALTERNATIVE PRODUCTS:
                                                                                                               Conservative
                                                                                                                                                                                                                                                               STANDARD;
                 184
                                                                                                                                                                                                                                                                                                                                                                                              Mus musculus (Mouse)
                                                                                              Similarity
10; Conserv
                                              190 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=10090;
                 184
                                                                                                                                                                                                                                                                                                                                                                              /EGF OR VEGFA.
                                                                                                                                                                                                                                                               VEGA_MOUSE
                                                SEQUENCE
               VARSPLIC
                                                                              Query Match
Best Local
                                                                                                                                                                                                                                                VEGA_MOUSE
                                                                                                               Matches
                                                                                                                                                                                                                                RESULT 6
                                                                                                                                                                                                                                                                                FFFS
                                                                                                                                                 ò
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sciurognathi; Muridae; Murinae; Rattus.
continues in kidney glomeruli and choroid plexus in adults
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            28-FEB-2003 (Rel. 41, Last sequence update)
8-FEB-2003 (Rel. 41, Lastlannotation update)
Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
                                                                 SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -> N (in isoform VEGF-1).
                         VEGF-3 contains a basic insert which acts as a cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A. (ISOFORM VEGF-A164), AND SEQUENCE OF 27-190 MEDLINE=90207249; PubMed=2320579;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mitogen; Anglogenesis; Growth factor; Glycoprotein; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 214;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Missing (in isoform VEGF-2).
/FTId=VSP_004628.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Missing (in isoform VEGF-1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. ) (PRO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -> ER (IN REF. 2).
B5540B51E4BB6E17 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 1;
0.021;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FTIG-VSP_004627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 56; DB
Pred. No. 0.02
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BY SIMILARITY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             roDom; PD001629; PD_growth_factor; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                      HSSP, P15692; 2VPF.
MGD; MG1:103178; Vegfa.
InterPro: IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                              -; NOT_ANNOTATED_CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   71.8%; Sco.
71.4%; Pred
0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         P16612; Q9JKX7; Q9QXG6; Q9QXG7
01-AUG-1990 (Rel. 15, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               25283 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          86 CNDEALECVPISES 99
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                                                                                                                                                                                                                                                                                       EMBL; S37052; AAB22252.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity 71.4
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PROSITE; PS00249; PDGF_1
PROSITE; PS50278; PDGF_2
                                                                                                                                                                                                                                                                                                                                S38100; AAB22254.1
M95200; AAA40547.1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SM00141; PDGF;
                                               retention signal
                                                                                                                                                                                                                                                                                                                                                                                                                      B44881; B44881.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      117 '
214 AA;
                                                                                                                                                                                                                                                                                                                                                                                                A44881; A4488
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                                                                                                                                                                                                                                                                                                                                                                           U41383;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SMART;
                                                                                                                                                                                                                                                                                                              EMBL;
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                                                                                                                                                                                                                                                                                                                                                                           EMBL;
                                                                                                                                                                                                                                                                                                                                     EMBL;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                         endothelial growth factor placenta growth factor heterodimer.";
J. Biol. Chem. 270:7717-7723(1995).
-!- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the veckRL/Fit-1 and VEGFR/Kdr receptors and to heparan sulfate and heparin (By similarity).
                                                                                                                                                                        Ishii H., Arakawa T., Okayama M., Oota I., Takuma T., Inomata K.; "Developmental expression of vascular endothelial growth factor-A (VEGF-A) splicing variants, VEGF-A188, VEGF-A164, and VEGF-A120 in rat masseter muscle.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Isoid=p16612-4; Sequence=VSP_004631;
-:- TISSUE SPECIFICITY: Expressed in the pituitary, in brain, in particularily in supraoptic and paraventricular nuclei and the choroid plexus. Also found abundantly in the corpus luteum of the ovary and in kidney glomeruli.
-:- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
Conn G., Bayne M.L., Soderman D.D., Kwok P.W., Sullivan K.A.,
Palisi T.M., Hope D.A., Thomas K.A.;
"Amino acid and cDNA sequences of a vascular endothelial cell mitogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SUBBUIT: Homodimer; disulfide-linked. Also found as heterodimer with PIGF (By similarity).

SUBCELLULAR LOCATION: VEGF-A120 is acidic and freely secreted.

SUBCELLULAR LOCATION: VEGF-A120 is acidic and freely secreted.

VEGF-A164 is more basic, has heparin binding properties and, although a signicant proportion memains cell-associated, most is freely secretion and reproportion remains cell-associated after secretion and is bound avidly by heparin and the extracellular matrix, although it may be released as a soluble form by heparin, heparinase or plasmin (By similarity).
                                                                                                                                                                                                                                                                                                                                 TISSUE-Glial tumor;
MEDLINE-95221439; PubMed-7706320;
MEDLINE-95221439; PubMed-7706320;
Disalvo J., Bayne M.L., Conn G., Kwok P.W., Trivedi P.G.,
Soderman D.D., Palisi T.M., Sullivan K.A., Thomas K.A.;
"Purification and characterization of a naturally occurring vascular
                                                                                                                                    SEQUENCE FROM N.A. (ISOFORMS VEGF-A188; VEGF-A164; VEGF-A144 AND
                                                                                                                                                                                                                                                                   Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
                                                               Proc. Natl. Acad. Sci. U.S.A. 87:2628-2633(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IsoId=P16612-2; Sequence=VSP_004629, VSP_004630;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Event=Alternative splicing; Named isoforms=4;
Comment=Additional isoforms seem to exist;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IsoId=P16612-3; Sequence=VSP_004632;
Name=VEGF-A120;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IsoId=P16612-1; Sequence=Displayed;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Name-VEGF-A164;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Name-VEGF-A144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Name=VEGF-A188
                                                                                                                                                                                                                                                                                                              SEQUENCE OF 27-40.
                                                                                                                                                        VEGF-A120)
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InterPro; IPR000072; PD\_growth\_factor PD001629; PD\_growth\_factor;

PDGF: 1.

Pfam; PF00341;

ProDom;

PROSITE; PS00249; PDGF\_1; 1. PROSITE; PS50278; PDGF\_2; 1.

SM00141; PDGF;

EMBL; AF215726; AAF19212.1; -EMBL; AF222779; AAF25958.1; -

HSSP: P15692: 1VPP

AF215725; AAF19211.1; EMBL; M32167; AAA41211.1;

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted (NOV-2000) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: Growth factor active in anglogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell profess cell migration, inhibits apoptosis, and induces permeablization of blood vessels. It binds to the VEGFRI/Fit-1 and VEGFRZ/Kdr receptors and to heparan sulfate and
                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homodimer; disulfide-linked. Also found as heterodimer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
Lee T., Canty J.M.;
"PCR cloning of porcine cardiac vascular endothelial growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                          VASCULAR ENDOTHELIAL GROWTH FACTOR A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Chordata; Craniata; Vertebrata; Euteleostomi; Cetartiodactyla; Suina; Suidae; Sus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P49151; Q9GL52;
01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
                                                                                                                                                                                                                                                                                                                                                                                                                                    ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       with PIGF (By similarity). SubCELLULAR LOCATION: Secreted but remains associated to ce to the extracellular matrix unless released by heparin (By
                                                                                                                          INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
IN-LINKED (GLCNAC. .).
K -> N (in isoform VEGF-A164).
/FIId-VSP_004629.
Missing (in isoform VEGF-A164).
                                                                                                                                                                                                                                            /FTId=VSP_004630.
Missing (in isoform VEGF-A120).
                                                                                                                                                                                                                                                                                                Missing (in isoform VEGF-A144)
//FTIG4-VSP_006632.
- A (IN REF. 2; AAF19212).
60FBB876F304946 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE-95143284; PubMed-7841203;
Sharma H.S., Tang Z.H., Gho B.C.H., Verdouw P.D.;
Sharma H.S., Tang Z.H., Gho B.C.H., Verdouw P.D.;
Sharma H.S., Sequence and expression of the porcine vascular
endothelial growth factor.
Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
Heparin-binding; Alternative splicing; Multigene family.
                                                                                                                                                                                                                                                                                                                                                                                             71.8%; Score 56; DB 1; Length 214; 71.4%; "Pred. No. 0.021;
                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                 004631.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT; 190 AA.
                                                                       BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Biochim. Biophys. Acta 1260:235-238(1995).
                                                                                                                                                                                                                                                                                   /FIId=VSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sus scrofa (Pig).
Bukaryota; Metazoa; Chordata;
Mammalia; Butheria; Cetartioda
                                                                                                                                                                                                                                                                                                                                                          MM
                                                                                                                                                                                                                                                                                                                                                                                             71.88;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 CNSEMRECVPTEES 14
                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 71.4
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          86 CNDEALECVPTSES
                                      26
214
93
127
129
76
85
100
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                                                                                                                                                                                                                                                                                                                                     101
214 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=9823;
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P49151; Q
                                                                       DISULFID
                                                                                                            DISULFID
                                                                                                                                                 DISULFID
CARBOHYD
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                                                                                                                                                                                                                                                                                                                                     CONFLICT
                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
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                                                                                                                                                                                      VARSPLIC
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VEGA_MESAU
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                                                                                                                                                                                                                                                                                                                                                                                SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      CHAIN
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There are no restrictions on its ng as its content is in no way
           use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to licenseelab-sib.ch)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Jingjing L., Roque R.S.; Submitted (MAR-1999) to the EMBL/GenBank/DDBJ databases.

-:- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFRI/FIL-1 and VEGFRZ/Kdr receptors and to heparan sulfate and heparin (By similarity).

-:- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Scheidegger P., Weiglinfer W., Suarez S., Kaser-Hotz B., Steiner R., Ballmer-Hofer K., Jaussi R., "Vascular endothelial growth factor (VEGF) and its receptors in tumor-
                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                   VASCULAR ENDOTHELIAL GROWTH FACTOR A.
BY SIMILARITY.
BY SIMILARITY:
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N'LINKED (GLCNAC...) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PIGF (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VEGA_CANFA STANDARD, PRT; 214 AA.
09MYV3; Q9XSF3; Q9XSF4; Q9XSF5;
28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A. (ISOFORMS VEGF-188; VEGF-182 AND VEGF-164).
                                                                                                                                                                      PROSITE: PS00249; PDGF_1; 1.
PROSITE: PS50278; PDGF_2; 1.
Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
                                                                                                                                                                                                                                                                                                                                                               ; Score.55; DB 1; Length 190;
; Pred. No. 0.028;
' 0; Mismatches 3; Indels
                                                                                                                                                                                                                                                                                                                            -> A (IN REF. 2).
04D40B8D7913047F CRC64;
                                                                                                                                                                                                                         POTENTIAL.
European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A. (ISOFORM VEGF-188).
                                                                                                                                               ProDom; PD001629; PD_growth_factor; 11.
SMART; SM00141; PDGF; 1.
                                                                                                                      InterPro; IPR000072; PD_growth_factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE-20125516; PubMed-10661874;
                                                                                                                                                                                                             Heparin-binding; Multigene family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Biol. Chem. 380:1449-1454(1999).
                                                                                                                                                                                                                                                                                                                                         22368 MW;
                                                                                                                                                                                                                                                                                                                                                                70.58;
                                                                                  EMBL, AF318502, AAG33064.1,
PIR, S52130, S52130.
HSSP; P15692, 1VGH.
                                                                                                                                                                                                                                                                                                                                                                            76.98;
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                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                    Pfam; PF00341; PDGF; 1.
                                                                       EMBL; X81380; CAA57143.
                                                                                                                                                                                                                                                                                                                        102
190 AA;
                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
les 10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=9615;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VEGF OR VEGFA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    dogs.
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DISULFID
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                                                                                                                                                                                                                            SIGNAL
                                                                                                                                                                                                                                       CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VEGA_CANFA
                                                                                                                                                                                                                                                                                                                                                                                           Matches
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between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to licenseéisb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration
SUBCELLULAR LOCATION: Secreted but remains associated to cells or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                               ISOId=Q9MYV3-3; Sequence-VSP_004615, VSP_004616;
SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILX OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . ) (POTENTIAL).
K -> N (in ISOform VEGF-164).
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28-FEB-2003 (Rel. 41, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Vascular endothelial growth factor A precursor (VEGF-A) (Vascular Permeability factor) (VPF)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VASCULAR ENDOTHELIAL GROWTH FACTOR
                            to the extracellular matrix unless released by heparin (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROSITE: PS00249; PDGF 1; 1;
PROSITE; PS50278; PDGF 2; 1.
Mitogen; Anglogenesis; Growth factor; Glycoprotein; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Missing (in isoform VEGF-164)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Missing (in isoform VEGF-182)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 55; DB 1; Length 214;
Pred. No. 0.031;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0AC980A158C44B27 CRC64;
                                                                                                     Event=Alternative splicing; Named isoforms=3;
Comment=Additional isoforms seem to exist;
Name=VEGF-188;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -> V (IN REF. 2)
-> S (IN REF. 2)
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I -> V /TM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                               IsoId=Q9MYV3-2; Sequence-VSP_004617;
                                                                                                                                                                                    IsoId=Q9MYV3-1; Sequence=Displayed;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PD001629; PD_growth_factor; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               214 AA; 25175 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  70.5%;
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                                                                            ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10; Conservative
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HSSP; 'P15692; 1VGH
                                                                                                                                                                                                                                                                      Name=VEGF-164;
                                                                                                                                                                                                                   Name=VEGF-182;
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Equus caballus (Horse).
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                                                                                                                                                                 Cell Tissue Res. 296:339-349(1999).

-!- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell prointers cell migration, inhibits apoptosis, and induces. permeabilization of blood vessels. It binds to the VEGFRI/Fit-1 and VEGFRZ/Kdr receptors and to heparan sulfate and heparin (By similarity).
                                                                                                                                                                                                                                                              SUBDATE: Homodimer; disulfide-linked. Also found as heterodimer with PIGF (By similarity).
SUBCELLULAR LOCATION: Secreted but remains associated to cells or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Heparin binding, Multigene family.
SIGNAL 26 BY SIMILARITY.
CHAIN 27 190 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
                                                                                                                                                                                                                                                                                                                           similarity).
SIMILARITY: BELONGS TO THE PDĜF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
                                                                                                             Yi X.J., Jiang H.Y., Lee K.K., Tang P.L., Chow P.H.;
"Expression of vascular endothelial growth factor (VEGF) and its
receptors during embryonic implantation in the golden hamster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCHAC. ) (POTENTIAL).
FOOCSABEA/9A465F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
                                                                                                                                                                                                                                                                                                              to the extracellular matrix unless released by heparin (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROSITE: PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
Mitogen; Anglogenesis; Growth factor; Glycoprotein; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 190;
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Pred. No. 0.13;
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BY SIMILARITY.
BY SIMILARITY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
ProDom; PD001629; PD_growth_factor; 1.
                                                                                  TISSUE-Decidua, and Embryo;
MEDLINE-99311285; PubMed-10382276;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; AF063013; AAK00049.1; -.
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                                                                                                                                                        (Mesocricetus auratus).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
                                                                     SEQUENCE FROM N.A.
                                           NCBI_TaxID-10036;
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09GKR0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUBCELLULAR LOCATION: Secreted but remains associated to cells or
to the extracellular matrix unless released by heparin (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                  Miura N., Misumi K., Rawahara K., Nakashima M., Fukumitsu S., Kawabata H., Uto N., Oka T., Maruyama I., Sakamoto H.; "Cloning of cDNa and high-level expression of equine vascular endotherial growth factor (VBGF)."

Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.

-!- FUNCTION: Growth factor active in anglogenesis, and endothelial cell growth. Induces endothelial proliferation and vascular permeability (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -!- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PIGF (By similarity):
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VASCULAR ENDOTHELIAL GROWTH FACTOR A. BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. ...) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Eutheria, Perissodactyla, Equidae, Equus.
NCBI_TaxID=9796;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Saccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Hypothetical 153.8 KDa protein in GAL80-PRR93 intergenic region.
YML049C OR YM9827.03C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROSITE; PS00249; PDGF_1; 1. PROSITE; PS50278; PDGF_2; 1. Mitogen; Anglogenesis; Growth factor; Glycoprotein; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 49; DB 1; Length 190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PINKED (GLCNAC. . .) (PORT | 1987 | 1987 | 1987 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 | 1
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0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT; 1361 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; AB053350; BAB20890.1; -; HSSP; P15692; 1VGH. LinterParc. LFR000072; PD_growth_factor. Pfam; PF00341; PDGF; 1. ProDom; PD001629; PD_growth_factor; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            22312 MW;
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69.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 CNSEMRECVPTEE 13
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Best Local Similarity 69.2
Matches 9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STANDARD;
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190
93
127
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                                                                                                                                                                                                                     SEQUENCE FROM N.A.
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004693;
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CARBOHYD
SEQUENCE
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                                                                                                                                                                                                                             Genew;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CHAIN
                                                                                                                                                                                                                                            MIM;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SÜBCELLULAR* LOCATION: Type I membrane protein.
TISSUE SPECIFICITY: HIGH LEVELS IN BRAIN, PANCREAS, AND SKELETAL MUSCLE: LESS IN COLON, KIDNEY, LIVER, STOMACH, AND UTERUS; NOT EXPRESSED IN PLACENTA AND SPLEEN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(2)0 - protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FUNCTION: REGULATION OF PROCESSES INVOLVING CELL CONTACT AND ADHESION SUCH AS GROWTH CONTROL, TUMOR INVASION, AND METASTASIS. FORMS COMPLEXES WITH BETA-CATENIN AND GAMMA-CATENIN/PLAKOGLOBIN
             Bowman S., Churcher C.M., Badcock K., Brown D., Chillingworth T., Connor R., Dedman K., Devlin K., Gentles S., Hamlin N., Hunt S., Jagels K., Lye G., Moule S., Odell C., Pearson D., Rajandream M.A. Rice P., Skelton J., Walsh S., Whitehead S., Barrell B.G.:
"The nucleotide sequence of Saccharomyces cerevisiae chromosome XIII."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Protein-tyrosine phosphatase U precursor (EC 3.1.3.48) (R-PTP-U)
(Protein-tyrosine phosphatase J) (PTP-J) (Pancreatic carcinoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Wang H., Lian Z., Lerch M.M., Chen Z., Xie W., Ullrich A.; "Characterization of FOP-2, a novel receptor protein tyrosine phosphatase of the MAM domain family."; oncogene 12:2555-5562(1996).
                                                                                                                           SIMILARITY: IN THE C-TERMINAL, TO THE C-TERMINAL OF HUMAN HYPOTHETICAL PROTEIN KIAA0017.
                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 1361;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                 4D92837F5C267D67 CRC64;
                                                                                                                                                                                                                                                                                                                            GO:0005686; C:snRNP U2; IDA. GO:0030620; F:U2 snRNA binding activity; IPI. GO:0000245; P:spliceosome assembly; IDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          .64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 40;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE-96293401; PubMed=8700514;
                                                                                                                                                                                                                                                                                                                                                                                                                 1361 AA; 153783 MW;
                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR004871; CPSF_A. Pfam; PF03178; CPSF_A; 1. Hypothetical protein.
                                                                                                                                                                                                                                                                                  Z47816; CAA87825.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                             51.3%;
50.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | :|:| ||| :|
603 CTAELRHIVPTGKS 616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 CNSEMRECVPTEES 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tyrosine + phosphate.
                                                                                                                                                                                                                                                                                                                                                                                                                                            Ouery Match
Best Local Similarity 50.0°
Matches 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STANDARD;
                                                                                                             Nature 387:90-93(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        phosphatase 2) (PCP-2)
STRAIN-S288c / AB972;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (Human)
                                                                                                                                                                                                                                                                                                 $50943.
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                                                                                                                                                                                                                                                                                                               S0004513; RSE1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE=Pancreas;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PIPRU OR PCP2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                   PIR; S50943;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PTPU_HUMAN
ID PTPU_HUMAN
AC 092729;
                                                                                                                                                                                                                                                                                                                                                                                                                  SEOUENCE
                                                                                                                                                                                                                                                                                    EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          MIM; 602454; ...
60; GO:0005887; C:integral to plasma membrane; TAS.
60; GO:0005001; F:transmembrane receptor protein tyrosine pho. .: TAS.
60; GO:0007155; P:cell adhesion; TAS.
60; GO:0007185; P:transmembrane receptor protein tyrosine pho. .: TAS.
-i- INDUCTION: UPREGULATED UPON CELL CONTACT.
-i- SIMILARITY: Contains 1 MAM domain.
-i- SIMILARITY: Contains 1 immunoglobulin-like C2-type domain.
-i- SIMILARITY: Contains 4 fibronectin type III domains.
-i- SIMILARITY: Contains 2 protein-tyrosine phosphatase domains.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FIBRONECTIN TYPE-III 4.
PROTEIN-TYROSINE PHOSPHATASE 1.
PROTEIN-TYROSINE PHOSPHATASE 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROTEIN-TYROSINE PHOSPHATASE EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Receptor; Glycoprotein; Signal; Transmembrane;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CYTOPLASMIC (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FIBRONECTIN TYPE-III 1. FIBRONECTIN TYPE-III 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A5F366C16FCF8E48
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BY SIMILARITY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           POTENTIAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR003006; Ig_MHC;
InterPro; IPR000998; MAM_domain.
InterPro; IPR000387; TYR_phosphatase.
InterPro; IPR000242; Tyr_PP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR003961; FN_III.
InterPro; IPR003962; FnIII_subd.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PS50060; MAM_2; 1
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Pfam; PF00629; MAM;
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Nakagawa T., Murakami K., Nakayama K.; Identification of an isoform with an extremely large Cys-rich region
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                                                                                                                                                                                                                                                                                                precursor (EC 3.4.21.-)
                                                       Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bendayan M., Seidah N.G.;
"The isoforms of proprotein convertase PC5 are sorted to different
                                                                                                                                                                                                                                                                                                                                                                       Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Musinae; Mus.
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                         16-OCT-2001 (Rel. 40, Last sequence update)
28 FEB-2003 (Rel. 41, Last annotation update)
Proprotein convertase subtilishin/kexin type 5 precursor (EC 3.4.;
(Proprotein convertase PC5) (Subtilisin/Rexin-like protease PC5) (Convertase PC5) (Subtilisin-like proprotein convertase 6)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Identification and functional expression of a new member of the mammalian Kex2-like processing endoprotease family: its striking
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Lusson J., Vieau D., Hamelin J., Day R., Chretien M., Seidah N.G "CDNA structure of the mouse and rat subtilisin/kexin-like PC5: candidate proprotein convertase expressed in endocrine and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   De Bie I., Marcinkiewicz M., Malide D., Lazure C., Nakayama K.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TISSUE-Brain, and Intestine;
MEDLINE-93224489; PubMed-8468318;
Nakagawa T., Hosaka M., Torii S., Watanabe T., Murakami K.,
                 Length 1430;
                                                       Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE OF 330-1877 FROM N.A. (ISOFORM PC5B).
                   DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       of PC6, a Kex2-like processing endoprotease.";
FEBS Lett. 327:165-171(1993).
                                                                                                                                                                                                          1877 AA.
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                                                       Mismatches
                                     67
                                     õ
                   Score.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A. (ISOFORM PC5A).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             structural similarity to PACE4.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE=Adrenal cortex;
MEDLINE=93342056; PubMed=8341687;
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                                                                                                                                                                                                   PCKS_MOUSE STANDARD;
004592; 062040;
01-FEB-1995 (Rel. 31, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Biochem. 113:132-135(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAIN-ICR; TISSUE-Intestine;
                   51.3%;
58.3%;
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427 NQTIRECVKTEQ 438
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                                                     Conservative
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Query Match
Best Local Similarity
7; Conserve
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FUNCTION: LIKELY TO REPRESENT A WIDESPREAD ENDOPROFEASE ACTIVITY WITHIN THE CONSTITUTIVE AND RECULATED SECRETORY PATHWAY CAPABLE OF CLEAVAGE AT THE RX(K/R)R CONSENSUS MOTHE. MAY BE RESPONSIBLE FOR THE MATURATION OF GASTROINTESTINAL PEPTIDES. MAY BE INVOLVED IN THE CELLULAR PROLIFERATION OF ADRENAL CORTEX VIA THE ACTIVATION OF GROWTH FACTORS.
                                                                                                                                       proproteins by cleavage of Arg-Xaa-Yaa-ARG-1-Zaa bonds, where Xaa can be any amino acid and Yaa is Arg or Liss.
SUBCELLULAR LOCATION: PCSA IS SECRETED THROUGH THE REGULATED
SECRETORY PATHWAY. PCSB IS A TYPE I MEMBRANE PROTEIN LOCALIZED TO
A PARANUCLEAR POST-GOLGI NETWORK COMPARTMENT IN COMMUNICATION WITH
                                                                                                                        CATALYTIC ACTIVITY: Release of mature proteins from their
                                                                                                                                                                                                                                                                    Event=Alternative splicing: Named isoforms=2;
Comment=Additional isoforms seem to exist;
21:75-81(1997)
                                                                                                                                                                                                                                                   ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                EARLY ENDOSOMES
   Dev.
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Name=PC5B; Synonyms=Long; IsoId=Q04592-1; Sequende=Displayed;

-1-TISSUE SPECIFICITY: PC5A.IS EXPRESSED IN MOST TISSUES BUT IS MOST ABUNDANT IN THE INTESTINE AND ADRENALS. PC5B IS EXPRESSED IN THE INTESTINE, ARRANALS AND LUNG BUT NOT IN THE BRAIN.

-1-DEVELOPMENTAL STAGE: WEAKLY EXPRESSED THROUGHOUT THE EMBRYO.

EXCEPT IN THE DEVELOPING WERNOUS SYSTEM, THE RIBS AND THE LIVER, BUT MARKEDLY UPREGULATED AT DISCRETE SITES DURING DEVELOPMENT. AT E6.5, PROMINENT EXPRESSION IN EXTRAGEMENTONIC ENDODERM, AMNION AND NASCENT MESODERM. AT 8.5, ABUNDANT EXPRESSION IN SOMITES AND YOLK SAC FOLLOWED BY A CONFINATION TO DERMAMYOTOME COMPARTMENT. BETWEEN E9.5 AND E11.5, ABUNDANT EXPRESSION IN THE LIMBS IS CONFINED TO THE CONDENSION MESSENCHYM SURROUNDING THE CARTILAGE. AT THIS STAGE, STRONG EXPRESSION IN THE MUSCLE OF THE THIS STAGE, STRONG EXPRESSION IN THE MUSCLE OF THE LONGUE. AT E15.5, ABUNDANT EXPRESSION IN VERTEBRAL AND FACIAL CARTILAGE PRIMORDIA AND IN THE MUSCLE OF THE TONGUE. AT E16.5, ABUNDANT EXPRESSION IN THE MUSCLE OF THE INDESTINAL VILLIFICATION BOOK BOOK AND IN THE MUSCLE OF THE INDESTINAL VILLIFICATION AND STAGES BUT SIGNIFICANT LYBLE. VSP\_005439; Sequence=VSP\_005438, Name=PC5A; Synonyms=Short; IsoId=Q04592-2; Sequence

DOMAIN: THE PROPEPTIDE DOMAIN ACTS AS AN INTRAMOLECULAR CHAPERONE ASSISTING THE FOLDING OF THE 2YMOGEN WITHIN THE ENDOPLASMIC

SORTING INFORMATION. AC 1 DIRECTS TGN LOCALIZATION AND INTERACTS WITH THE TGN SORTING PROTEIN PACS-1. DOMAIN: AC 1 AND AC 2 (CLUSTERS OF ACIDIC AMINO ACIDS) CONTAIN RETICULUM

SIMILARITY: Belongs to peptidase family S8. SIMILARITY: Contains 1 homo B/P domain.

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InterPro; IPR002884; P\_domain. InterPro; IPR000209; Peptidase\_S8 P\_domain; 1 EMBL; D17583; BAA04507.1; -14932; AAA74636.1; Pcsk5. PIR; A48225; A48225. PIR; S34583; S34583. HSSP; Q99405; IMPT. PRINTS; PR00723; S ProDom; PD000717; MEROPS; S08.076; 4GD; MGI:97515; EMBL; 88888888 

00261; FU; 22. PS00136; SUBTILASE\_ASP; 1

SMART; SM00261; FU; PROSITE; PS00136; S

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Search completed: July 24, 2003, 14:46:16
extensions.";
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                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
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                                                                                                                                                                                                                                                                                                                    GEY I DDQGHCQTCEASCAKCWGPTQEDC I SCPVTRVLD
ATEESWAEGGFCMLVKK NNLCQRKVLQQLCCKTCTFQG
                                                             PROPROTEIN CONVERTASE SUBTILISIN/KEXIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              13-AUG-1987 (Rel. 05, Last sequence update)
16-CCT-2001 (Rel. 40, Last annotation update)
Thyrotropin beta chain precursor (Thyroid-stimulating hormone beta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea
        PROSITE; PS00138; SUBTILASE_SER; 1.
Hydrolase; Serine protease; Glycoprotein; Zymogen; Signal;
Cleavage on pair of basic residues; Repeat; Alternative splicing;
Transmembrane.
                                                                                                                                                                      CHARGE RELAY SYSTEM (BY SIMILARITY)
CHARGE RELAY SYSTEM (BY SIMILARITY)
CHARGE RELAY SYSTEM (BY SIMILARITY)
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                                                                                                                                                     SIMILARITY) (POTENTIAL)
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CYS-RICH MOTIF (CRM) REGION
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                                                                                                                                                                                                                                                                                                                                                        Missing (in isoform PC5A).
                                                                              EXTRACELLULAR (POTENTIAL)
                                                                                               CYTOPLASMIC (POTENTIAL).
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PROSITE; PS00137; SUBTILASE_HIS; 1
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TSHB_BOVIN STANDARL,
AC POL123;
OT 21-JUL-1986 (Rel. 01, Created)
AT 21-JUL-1987 (Rel. 05, Last seque
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227
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                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
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CARBOHYD
                                                                              DOMAIN TRANSMEM
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ACT_SITE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -!- FUNCTION: INDISPENSABLE FOR THE CONTROL OF THYROID STRUCTURE AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Fairlie W.D., Stanton P.G., Hearn T.W.;
"The disulphide bond structure of thyroid-stimulating hormone beta-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -:- SUBDITT: HETERODIMER OF A COMMON ALPHA CHAIN AND A UNIQUE BETA CHAIN WHICH CONFERS BIOLOGICAL SPECIFICITY TO THYROTROPIN, LUTROPIN, FOLLITROPIN AND GONADOTROPIN.

-:- SIMILARITY: BELONGS TO THE GLYCOPROTEIN HORMONES BETA CHAIN
                                                                                                                               Liao T.-H., Pierce J.G., Trhe primary structure of bovine thyrotropin. II. The amino acid sequences of the reduced, S-carboxymethyl alpha and beta chains."; J. Biol. Chem. 246:850-865(1971).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                MEDLINE-71111427; PubMed-5101173; Shome B., Liao T.-H., Howard S.M., Pierce J.G.; Shome B., tiao T.-H., Howard S.M., Pierce J.G.; Theorimary structure of boyine thyrotropin. I. Isolation and partial sequences of cyanogen bromide and tryptic peptides."; J. Biol. Chem. 246:833-849(1971).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 138;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  THYROTROPIN BETA CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE; PS00261; GLYCO_HORMONE_BETA_1; PROSITE; PS00689; GLYCO_HORMONE_BETA_2; dormone; Glycoprotein; Signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 38;
Pred. No.
Biol. Chem. 259:5024-5027(1984)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PIR; 145983; TTBOB.
HSSP; P01233; IXUL.
ILGEPPO; IPR005208; Cys_knot.
InterPro; IPR002400; GF_Cysknot.
InterPro; IPR001545; GIY_hormoneB.
                                                                 SEQUENCE OF 21-132. REDLINE=71111428; Pubmed=5101174;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE-96239101; PubMed=8670056;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15624 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SM00068; GHB;
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Best Local Similarity
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Job time : 11.7059 secs

	GenCore version 5.1.6 Copyright (c) 1993 - 2003 Compugen Ltd.
OM protein - pr	OM protein - protein search, using sw model
Run on:	July 24, 2003, 14:14:50 ; Search time 24.7059 Seconds (without alignments) 146.230 Million cell updates/sec
Title: Perfect score: Sequence:	PEP1 78 11 CNSEMRECUPTEES 14
Scoring table:	BLOSUM62 Gapop 10.0 , Gapext 0.5
Searched:	830525 seqs, 258052604 residues
Total number of	Total number of hits satisfying chosen parameters: 830525

1: sp\_archea:\*
2: sp\_bacteria:\*
3: sp\_tungi:\*
4: sp\_human:\*
5: sp\_invertebrate:\*
6: sp\_manmal:\*
7: sp\_mhc:\*
8: sp\_orplag:\*
10: sp\_plag:\*
11: sp\_rodent:\*
12: sp\_virus:\*
13: sp\_vertebrate:\*
14: sp\_unclassified:\*
15: sp\_rvirus:\*
16: sp\_bacteriap:\*

Post-processing: Minimum Match 0%
Maximum Match 100%.
Listing first 45 summaries

Database :

Minimum DB seq length: 0 Maximum DB seq length: 2000000000 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

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	. Description	Q8min0 capra hircu	Q8min1 capra hircu	Q9bdp7 macaca mula	Q96kj0 homo sapien	096182 homo sapien	Q95ne5 macaca fasc	. Q9ymf3 orf virus.	097500 oryctolagus	018843 oryctolagus	Q9n1s2 capreolus c	Q9mzbl ovis aries	O9nls1 capreolus c	Q8mj86 capreolus c	077643 ovis aries	088911 rattus norv	O70123 mus musculu
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	11	ONIM80	<b>OBMIN</b>	<b>09BDP</b>	Q96KJ	<b>096L82</b>	095NE5	O9YME3	097500	018843	<b>09N1S2</b>	Q9MZB1	09N1S1	08MJ86	077643	08891	0701
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	Ouery Match Length DB	65	109	126	191	191	191	132	89	75	78	118	123	131	190	110	141
æ	Query Match 1	78.2	78.2	75.6	75.6	75.6	75.6	74.4	73.1	73.1	73.1	73.1	73.1	73.1	73.1	71.8	71.8
	Score	61	. 61	59	56	29	59.	28	57	57	. 57	57	57	57	57	99	26
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Gaps

Score 61; DB 6; Length 65; Pred. No. 0.00055; 0; Mismatches 3; Indels

Query Match 78.2%; Best Local Similarity 78.6%; Matches 11; Conservative

1 CNSEMRECVPTEES 14

BA3E5384364B05E3 CRC64;

NON\_TER 1 1 SEQUENCE 65 AA; 7562 MW;

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	Q9qx39 spalax leuc	call	Q8spz9 sus scrofa	Q8wmq4 sus scrofa	_	0951q4 felis silve	073822 brachydanio	042571 xenopus lae	073682 brachydanio	· 042572 xenopus lae	Q9er16 mesocricetu	Ψ	Q25239 lucilia cup	~	Q9qtd4 marek's dis		Q8fkw0 escherichia	Q9lue3 arabidopsis	Q9km65 vibrio chol	<ul> <li>Q9y016 paracentrot</li> </ul>	Q9yqr5 tula virus.	Q9h991 homo sapien	Q9hn68 halobacteri		Q39032 arabidopsis	Q8wns5 bos taurus	Q9xs50 bos taurus	. 08u317 pyrococcus	
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71.8	71.8	70.5	70.5	70.5	70.5	70.5	66.7	2.99	66.7	66.7	65.4	62.8	60.3	59.6	59.0	57.7.	57.7	53.8	53.8	53.8	53.8	53.2	52.6	52.6	52.6	51.3	51.3	51.3	
26	26	52	.55	55	52	22.	52	52.	52	52	51	49	47	46.5	46	45	45	42	42	42	42	41.5	41	. 41	41	40	40	40	
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ALIGNMENTS

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1 CNSEMRECVPTEES 14

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                                                                                                                                                                                                                                                                                                                                                                                                 Kawate N., Tsuji M., Tamada H., Inaba T., Sawada T.;
"Changes of Messenger RNAs Encoding Vacular Endothelial Growth Factor
and Its Receptors during the Development and Maintenance of Caprine
Corpora Lutea.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                       Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovoidea,
Bovidae, Caprinae, Capra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
Cercopithecinae; Macaca.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hazzard T.M., Nayak N.R., Jia'Y., Stouffer R.L.,
"Rhesus macaque VGEF mmNa sequence.";
Submitted (JAN-2001) to the EMBL/Genbank/DDBJ databases.
EMBL; AF339737, AAK26379.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE 109 AA; 12656 MW; 912657251A37E023 CRC64;
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                                                                                            01-OCT-2002 (TrEMBLrel. 22, Created)
01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
01-OCT-2003 (TrEMBLrel. 23, Last annotation update)
Vascular endothelila growth factor 165 (Fragment).
Capra hircus (Goat).
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01-JUN-2001 (TrEMBLrel. 17, Last Sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Vascular endothelial growth factor (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    78.2%; Score 61; DB 6; 78.6%; Pred. No. 0.0009;
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                                                   109 AA.
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InterPro, IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
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Pfam; PF00341; PDGF; 1.
ProDom; PD001629; PD_growth_factor; 1.
                                                PRT;
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Matches 11; Conservative
                                                     PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                            TISSUE-Corpus luteum;
                                                                                                                                                                                                                                                                                                                                                  EQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                             NCBI_TaxID=9925;
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SEQUENCE
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RESULT 2
Q8MIN1
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Sugiono M.; Winkler M., Gillatt D., Harper S.J., Bates D.O.;
"A new isoform of vascular endothelial growth factor mRNA is down-
regulated in renal tumors.";
(In) Unknown A. (eds.);
Proceedings of the 7th World Congress on Microcirculation, pp.3-3,
Sydney, Australia (2001).

EMBL, AR420806; AAL27435.1;
InterPro; IPR00072; Pp.growth_factor.

Pfam; PF00141; PDGF: 1.
                                                                                                                                                                                                                                                                                                             Eukaryota: Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhin1; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Liu J., Peng X., Yuan J., Qiang B.;
"Cloning of vascular endothelial growth factor (VEGF) cDNA.";
Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
EMBL, AYO47581; AAK95847.1;
InterPro: IPR000072; PD_growth_factor.
Pfam: PF00341; PDGF: 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PROSITE: PS50219; PDGF_1; 1: PROSITE; PS50218; PDGF_2; 1: SEQUENCE 191 AA: 22258 MW; D25243E540AC79BD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-OCT-2002 (TrEMBLrel. 22, Last annotation update)
Vascular endothelial growth factor.
                                                                                                                                                                                                                       Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 59; DB 4;
Pred. No. 0.0037;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   191 AA
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                                                                                                                                                                                                                                                                   Vascular endothelial growth factor 165b.
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SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Probom; PD001629; PD_growth_factor; 1 PROSITE; PS00249; PDGF_1; 1. PROSITE; PS50278; PDGF_2; 1.
                                                                                                                                                                                                Created)
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                                                                                                                                         PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 CNSEMRECVPTEES 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ouery Match 75.6
Best Local Similarity 78.6
Matches 11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity 78.6
Matches 11; Conservative
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                                                                                                                                              PRELIMINARY;
                                                                                                                                                                                                                                                                                                Homo sapiens (Human).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE=Kidney;
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                                                                                             RESULT 4
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Gaps

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**095NE5** 

RESULT 095NES

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STRAIN=NEW ZEALAND WHITE; TISSUE=Skeletal muscle;
MEDLINE-98191144; PubMed=9530113;
Skorjanc D., Jaschinski F., Heine G., Pette D.;
"Sequential increases in capillarization and mitochondrial enzymes in low frequency stimulated rabbit muscle.";
Am. J. Physiol. 274:C810-C818(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Oryctolagus cuniculus (Rabbit).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi;
Mammalia, Eutheria; Lagomorpha, Leporidae, Oryctolagus.
                                                                            Score 58; DB 12; Length 132; Pred. No. 0.004;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Inoue K., Kawabe Y., Kodama T.;
"Rabbit VEGF cDNA,partial.";
Submittad (NOV-1998) to the EMBL/GenBank/DDBJ databases.
EMBE, AB020215; BAA36949.1;
PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
SEQUENCE 132 AA; 14763 MW; 15F403A068B72926 CRC64;
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                                                                                                                                                                                                                                                                                                                                                             Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 57; DB 6; Le
Pred. No. 0.0032;
0; Mismatches 3;
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-01-MAY-1999 (TrEMBLrel. 10, Last sequence upda
-01-MAR-2003 (TrEMBLrel. 23, Last annotation up
Vascular endothelial growth factor (Fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        75 AA.
                                                                                                                                                                                                                                                                                                   68 AA
                                                                                                                     Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              nterPro; IPR000072; PD_growth_factor
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                                                                              74.4%; Score 71.4%; Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                            Oryctolagus cuniculus (Rabbit).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 73.1%;
Best Local Similarity 76.9%;
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-JAN-1998 (TrEMBLrel. 05)
01-JAN-1998 (TrEMBLrel. 05)
01-MAR-2003 (TrEMBLrel. 23)
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                                                                                                                                                             1 CNSEMRECVPTEES 14
                                                                                                                                                                                   70 CNDESLECVPTEEA 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PROSITE; PS00249; PDGF_1;
PROSITE; PS50278; PDGF_2;
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                                                                                                   Best Local Similarity 71.4
Matches 10; Conservative
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DR PROSITE; P
DR PROSITE; P
SQ SEQUENCE
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                                                                              Query Match
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097500
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Augustin H.G., Ziche M., Lanz C., Buettner M., Rziha H.J., Dehio C.;
A novel vascular endothelial growth factor encoded by orf virus,
VEGF-E, mediates angiogenesis via signalling through VEGFR-2 (KDR) but
not VEGFR-1 (Fit-1) receptor tyrosine kinases.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Shima D.T., Gougos A., Miller J.W., Tolentino M., Robinson G., Adamis A.P., D'Amore P.A.; "Cloning and mRNA expression of vascular endothelial growth factor in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ruses; dsDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;
                                                                                                                                                                                                                                                                                                 Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
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Pred. No. 0.0037,
0, Mismatches 3, Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Probom; P0001629; PD_growth_factor; 1.
PROSTIE; PS00749; PDGF_1; 1.
SEQUENCE 191 AA, 22314 MW; CCE57097DD3779BD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-MAY-1999 (TrEMBLrel. 10, Last sequence update) 01-MAR-2003 (TrEMBLrel. 23, Last annotation update) Vascular endothelial growth factor homolog Vegf-e.
                                                                                                                                                                                                01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-OCT-2002 (TrEMBLrel. 22, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ischemic retinas of Macaca fascicularis.";
Invest. Ophthalmol. Vis. Sci. 37:1334-1340(1996)
EMBL. 882167. AAB47118.1;
InterPro. IPR000072; PD_growth_factor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  132 AA.
                                                                                                                                                             191 AA.
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                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=96245208; PubMed=8641836;
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MEDLINE-99107753; PubMed-9889193;
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78.6%;
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                                           1 CNSEMRECVPTEES 14
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pfam; PF00341; PDGF; 1.
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                                                                                                                                                                                                                                                                                                                                                           Cercopithecinae; Macaca
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Best Local Similarity
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Matches

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RESULT 7 Q9YMF3

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Gaps

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TISSUE=Placental artery endothelium;
Zheng J., Tsoi S.C., Magness R.R.;
"Growth factor expression in ovine fetal placental artery endothelial
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Mammalia, Butheria, Cetartiodactyla, Ruminantia, Pecora, Cervoidea,
Cervidae, Odocoileinae, Capreolus.
                                                                                                 Ovis aries (Sheep).

Bukaryota: Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia: Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Caprinae; Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE-20532861; PubMed-11078967; Wagener A., Blottner S., Goritz F., Fickel J.; "Detection of growth factors in the testis of roe deer (Capreolus capreolus).";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Vascular endothelial growth factor isoform 165 (Fragment).
                                                                                                                                                                                                                                                                                                                                                                     Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases. EMBL; #1226975; ARF72258.1; #1. HSSP; P407963; IF2V. InterPro; IPR000072; PD_growth_factor.
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  01-OCT-2000 (TrEMBLrel. 15, Last sequence update) 01-MAR-2003 (TrEMBLrel. 23, Last annotation update) Vascular endothelial growth factor (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         73.1%; Score 57; DB 6; 76.9%; Pred. No. 0.0055;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  123 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  nast, raylor, 1PR000072; PD_growth_factor. Pfam; PF00341; PDGF; 1. Probom; PD001629; PD_growth_factor; 1.
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EMBL; AF152594; AAF73233.1; F.
HSSP; P49763; 1F2V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Capreolus capreolus (Roe deer)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PS00249; PDGF_1; 1. PROSITE; PS50278; PDGF_2; 1.
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Best Local Similarity
Matches 10; Conserva
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NON_TER
NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q9N1S1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q9N1S1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 12
Q9N1S1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            õ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Cervoidea,
Cervidae, Odocoileinae, Capreolus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE-Testis;
MEDLINE-20532861; PubMed-11078967;
Wagener A., Blottner S., Goritz F., Fickel J.;
"Detection of growth factors in the testis of roe deer (Capreolus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Vascular endothelial growth factor isoform 121 (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 57; DB 6; Length 78;
Pred. No. 0.0037;
0; Mismatches 3; Indels
                                                                                                                                                                                                                                                                                                                                                 Length 75;
                                                                                                                                                                                                                                                                                                                                              Score 57; DB 6; Length 75; Pred. No. 0.0036; 0; Mismatches 3; Indels
                                                                                                                                                                                                                                                                                                DDCE2C5B29E69359 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7EE20DDFFC17847C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          118 AA.
                                      INSEP: F49703; ILZV.
INTERPRO: IPR002400; GF. Cysknot.
InterPro: IPR0004072; PD_growth_factor.
Ffam: PP00341; PDGF; I.
PRINTS: PR00418; GFCYSKNOT.
ProDom: PD001629; PD_growth_factor; I.
SWART: SW00141; PDGF; I.
PROSITE: PS00249; PDGF_I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro: IPR002400; GF_cysknot.
InterPro: IPR0000073. PD_growth_factor
Pfam: PF00341; PDGF: 1
PRINTS; PR00438; GFCYSKNOT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ProDom; PD001629; PD_growth_factor; 1 SMART; SM00141; PDGF; 1. PROSITE; PS00249; PDGF_1; 1. PROSITE; PS50278; PDGF_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q9MZB1;
01-OCT-2000 (TrEMBLrel. 15, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Anim. Reprod. Sci. 64:65-75(2000).
EMBL; AF152593; AAF73232.1;
HSSP; P49763; 1FZV.
EMBL; AF022179; AAC15469.1; -. HSSP; P49763; 1FZV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Capreolus capreolus (Roe deer)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             73.1%;
76.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               78 AA; 9131 MW;
                                                                                                                                                                                                                                                                                                75 AA; 8720 MW;
                                                                                                                                                                                                                                                                                                                                            Query Match 73.1%;
Best Local Similarity 76.9%;
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 CNSEMRECVPTEE 13
                                                                                                                                                                                                                                                                                                                                                                                                                                               1 CNSEMRECVPTEE 13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity 76.9
les 10; Conservative
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SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        09N1S2
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Q9MZB1
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Matches
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ACCOCCOON TO THE STANTANT OF T

RESULT 10 Q9N1S2

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Length 118;

Indels

Gaps

Length 123;

A S L

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Buttyan R., Shabsigh R.;
"Expression of messenger ribonucleic acid splice variants for vascular endothelial growth factor in the penis of adult rats and humans.";
EMBL: Reprod. 60:398-404(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus
NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN-Sprague-Dawley, TISSUE-Penis;
MEDLINE-99115228; PubMed-9916007;
Burchardt M., Burchardt T., Chen M.W., Shabsigh A., de la Taille A.,
                                                                                           ö
                                           Length 190;
OD5E3B3E5C53E739 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE 110 AA; 12713 MW; B81B79AC08D89F06 CRC64;
                                                                                                                                                                                                                                                                                                                                                                          01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
vascular endothelial growth factor A 110 (Fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 56; DB 11;
Pred. No. 0.008;
                                             Score 57; DB 6;
Pred. No. 0.0088;
                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  interPro; IPR002400; GF_cysknot.
interPro; IPR000072; PD_growth_factor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRO0438; GECYSKNOT. PRO01629; PD_growth_factor; 1. SW00141; PDGF: 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Search completed: July 24, 2003, 14:47:23 Job time: 26.7059 secs
                                                                                                                                                                                                                                                                                                                                                      Created)
190 AA; 22342 MW;
                                             73.18;
76.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  71.88;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROSITE; PS00249; PDGF_1; 1:
PROSITE; PS50278; PDGF_2; 1;
                                                                                                                                                                                                                                                                                                                                                 01-NOV-1998 (TrEMBLrel. 08, 01-NOV-1998 (TrEMBLrel. 08, 01-MAR-2003 (TrEMBLrel. 23,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1. CNSEMRECVPTEES 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60 CNDEALECVPTSES 73
                                                                                                                                                                 1 CNSEMRECVPTEE 13
                                                                                           Conservative
                                                                                                                                                                                                                                                                                                      PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       fam; PF00341; PDGF; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
                                                              Local Similarity
nes 10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A
SEQUENCE
                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RINTS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                           Matches
                                                                                                                                                                                                                                                           RESULT 15
                                                                                                                                                                                                                                                                                                                                               Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Cervoidea,
Cervidae, Odocoileinae, Capreolus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Cheung C.Y., Brace R.A.;
"Ovine vascular endothelial growth factor: Nucleotide sequence and expression in fetal tissues.";
Growth Factors 0:0-0(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ovis aries (Sheep).

Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Caprinee; Ovis.

NCBI_TaxID=9940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 57; DB 6; Length 131;
Pred. No. 0.0061;
0; Mismatches 3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         **Magener A., Fickel J.; "Detection of VEGF in roe deer testis."; Submitted (MAX-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    131 131 131 131 131 131 AM; 99719A58EEAC7FCA CRC64;
                                                                                                                                                                                                                                                        01-OCT-2002 (TrEMBLrel. 22, Last sequence update) 01-MAR-2003 (TrEMBLrel. 23, Last annotation update) Vascular endothelial growth factor-3 (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Last sequence update)
Last annotation update)
                                                                                                                                                                                     131 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; AF514284; AAM49789.1; -.
InterPro; IPR000072; PD_growth_factor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HSSP; P49763; 1FZV.
InterPro; IPR000072; PD_growth_factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ProDom; PD001629; PD_growth_factor; 1
SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ProDom; PD001629; PD_growth_factor; 1
                                                                                                                                                                                                                                  Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Created)
                                                                                                                                                                                     PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-NOV-1998 (TrEMBLrel. 08, Created 01-NOV-1998 (TrEMBLrel. 08, Last st 01-MAR-2003 (TrEMBLrel. 23, Last ar Vascular endothelial growth factor.
                                                                                                                                                                                                                                                                                                                            Capreolus capreolus (Roe deer)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; AF071015; AAC23608.1; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  73.1%;
milarity 76.9%;
Conservative 0
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                                                                                                                                                                                                                           01-OCT-2002 (TrEMBLrel. 22, 01-OCT-2002 (TrEMBLrel. 22, 01-MAR-2003 (TrEMBLrel. 23,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE; PS50278; PDGF_2; 1
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PROSITE; PS50278; PDGF_2; 1
                                           25 CNDESLECVPTEE 37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 CNSEMRECVPTEE, 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 CNSEMRECVPTEE 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 fam; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 10; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                EQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                       CBI_TaxID=9858;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SSUE-Testis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                    RESULT 13
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Human VEGF/VPF121 Vascular permeabil Human vascular per Vascular permeabil VEGF/VPF121. Homo

Amino acid sequenc Juman growth facto duman vascular end Human VEGF121 mono

Mature human

Polypeptide encode Polypeptide encode

Human vascular

encode

Polypeptide

Polypeptide encode

encode encode

Polypeptide encode

Polypeptide

Polypeptide encode

Polypeptide encode

Human growth facto

ALIGNMENTS

Polypeptide encode

Primary sequence o Human VEGF110. Ho Human vascular end Human vascular end

Human VEGF-121

Amino acid sequenc Human vascular end

Polypeptide encode

# GenCore version 5.1.6 Copyright (c) 1993 - 2003 Compugen Ltd.

el	July 24, 2003, 14:08:24; Search time 68.2353 Seconds (without alignments) 46.523 Million cell updates		
OM protein - protein search, using sw model	July 24, 2003, 14:08:24	PEP2 110 1 HHEVVKFEDVLRRSSCHPIE 20	BLOSUM62 Gapop 10.0 , Gapext 0.5
OM protein - pr	Run on:	Title: Perfect score: Sequence:	Scoring table: BLOSUM62 Gapop 10

Total number of hits satisfying chosen parameters: 1107863 segs, 158726573 residues Minimum DB seq length: 0 Maximum DB seq length: 200000000 Searched:

1107863

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

/SIDS1/gcgdata/geneseq/geneseqp-embl/AA2001.DAT /SIDS1/gcgdata/geneseq/geneseqp-embl/AA2002.DAT /SIDS1/gcgdata/geneseq/geneseqp-embl/AA2003.DAT /SIDS1/gcgdata/geneseq/geneseqp-embl/AA1996.DAT /SIDS1/qcqdata/qeneseq/geneseqp-embl/AA1998.DAT 'SIDS1/gcgdata/geneseq/genesegp-emb1/AA2000.DAT /SIDSI/gcgdata/geneseq/geneseqp-embl/AA1981.DAT./SIDSI/gcgdata/geneseq/geneseqp-embl/AA1984.DAT./SIDSI/gcgdata/geneseq/geneseqp-embl/AA1984.DAT./SIDSI/gcgdata/geneseq/geneseqp-embl/AA1985.DAT./SIDSI/gcgdata/geneseq/geneseqp-embl/AA1986.DAT./SIDSI/gcgdata/geneseq/geneseqp-embl/AA1988.DAT./SIDSI/gcgdata/geneseq/geneseqp-embl/AA1988.DAT. /SIDS1/gcgdata/geneseq/geneseqp-embl/AA1980.DAT data/geneseg/genesegp-emb1/AA1993. /gcgdata/geneseq/genesegp-embl/AA1989 /SIDS1/gcgdata/geneseg/ A\_Geneseq\_19Jun03; /SIDS1/gcgc /SIDS1/gcgc SIDS1 SIDS1 SIDS1 IDSI /SIDS1 SIDS Database

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description	Mutant human VEGF		Mutant human VEGF	Polypeptide encode	Human VEGF-A recep	VEGFR-1 binding ep	Polypeptide encode	Polypeptide encode	Polypeptide encode
* £									
	AAB28233	AAB28235	AAB28236	AAU08422	AAE32330	AAU08484	AAU08407	AAU08411	AAU08420
DB	21	21	21	22	24	22	22	22	. 55
% Query Match Length DB	191	191	191	54	101	102	105	105	105
% Query Match	100.0	86.4	84.5	80.0	80.0	80.0	80.0	80.0	80.0

Score

Result

-	
S	RESULT 1
Ω,	AAB28233
	AAB28233 standard; Protein; 191 AA.
	AAB28233;
	13-FEB-2001 (first entry)
	·
DE	Mutant human VEGF #1.
_	Human; vascular endothelial growth factor; VEGF; mutein; mutation;
_	kinase domain region receptor; KDR; vasculogenesis; angiogenesis;
	surgical incision; wound; laceration; blood vessel; ulcer.
SO	Homo sapiens.
SO	Synthetic
	Key Location/Qualifiers
	Misc-difference 44
	/note= "Wild-type Met substituted by Glu"
	Misc-difference 47
	/note= "Wild-type Tyr substituted by Leu"
	. Misc-difference 48
٠	/note= "Wild-type Gln substituted by Arg"
	Misc-difference 51
FT	/note= "Wild-type Tyr substituted by Ser"
PN	WO200063380-A1.
ED	26-OCT-2000.
×	: term
	10-APR-2000, 2000WO-US09483.

Polypeptide encode Polypeptide encode Polypeptide encode

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growth factor (VEGF) proteins (AAB28233-B28236). The present sequence is one such mutant. The mutant VEGF proteins have selective binding affinity for kinase domain region (KDR) receptor. The mutant VEGF proteins are useful for detecting KDR receptors for diagnostic purposes. In addition, the mutant VEGF proteins are useful for atimulating vasculogenesis or anglogenesis by exposing mammalian cells expressing a KDR receptor to the mutant proteins to treat trauma to the vascular network caused by
                                                                                                                                                                                                   Vascular endothelial growth factor variant useful for detecting kinase
                                                                                                                                                                                                                      domain region receptor for diagnostic purposes, comprises one or more amino acid mutations in native VEGF and has selective binding affinity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         surgical incisions, wounds, lacerations, penetration of blood vessels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Note: the present sequence is not shown in the specification but is derived from the wild-type human VEGF sequence given in Fig 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human; vascular endothelial growth factor; VEGF; mutein; mutation; kinase domain region receptor; KDR; vasculogenesis; anglogenesis; surgical incision; wound; laceration; blood vessel; ulcer.
                                                                                                                                                                                                                                                                                                                                            The present invention relates to mutant human vascular endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 191;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'note= "Wild-type Met substituted by Glu"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         by Met"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note= "Wild-type Leu substituted by Arg"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'note= "Wild-type Asp substituted by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'note= "Wild-type Gly substituted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Score 110; DB 21; ilarity 100.0%; Pred. No. 6.4e-10; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAB28235 standard; Protein; 191 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       37 HHEVVKFEDVLRRSSCHPIE 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 HHEVVKFEDVLRRSSCHPIE 20
                                                                                                                                                                                                                                                                                                    Claim 4; Page -; 70pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10-APR-2000; 2000WO-US09483.
                  99US-0129788
                                       23-FEB-2000; 2000US-0184235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                         Ď
                                                                                                                       Abraham
                                                                               (GETH ) GENENTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mutant human VEGF #3.
                                                                                                                                                           WPİ; 2000-672736/65.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               surface ulcers.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity
Matches 20; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Misc-difference 92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Misc-difference 44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 191 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO200063380-A1
                                                                                                                       Cunningham B,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13-FEB-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 2
AAB28235
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growth factor (VEGF) proteins (AAB28233-B28236). The present sequence is one such mutant. The mutant VEGF proteins have selective binding affinity for kinase domain region (KDR) receptor. The mutant VEGF proteins are useful. for detecting KDR receptors for diagnostic purposes. In addition, and angiogenesis by exposing mammalian cells expressing a KDR receptor to the mutant proteins to treat itrauma to the vascular network caused by surgical incisions, wounds, lacerations, penetration of blood vessels
                                                                                                                                                                                                   Vascular endothelial growth factor variant useful for detecting kinase
                                                                                                                                                                                                                          domain region receptor for diagnostic purposes, comprises one or more amino acid mutations in native VEGF and has selective binding affinity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; vascular endothelial growth factor; VEGF; mutein; mutation;
kinase domain region receptor; KDR; vasculogenesis; angiogenesis;
surgical incision; wound; laceration; blood vessel; ulcer.
                                                                                                                                                                                                                                                                                                                                                  The present invention relates to mutant human vascular endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Note: the present sequence is not shown in the specification but derived from the wild-type human VEGF sequence given in Fig 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 191;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note= "Wild-type Tyr substituted by Leu"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note= "Wild-type Leu substituted by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note='"Wild-type Gly substituted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            86.4%; Score 95; DB 21; L
85.0%; Pred. No. 1.8e-07;
ive 1; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAB28236 standard; Protein; 191 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 HHEVVKFEDVLRRSSCHPIE 20
                                                                                                                                                                                                                                                                                                       Claim 6; Page -; 70pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   37 HHEVVKFEDVYQRSYCHPIE
                 16-APR-1999; 99US-0129788.
23-FEB-2000; 2000US-0184235.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 86.4
Best Local Similarity 85.0
Matches 17; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        'note=
                                                                             (GETH ) GENENTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mutant human VEGF #4.
                                                                                                                                                            WPI; 2000-672736/65.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      surface ulcers.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        191 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Misc-difference 91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Misc-difference 47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200063380-A1
                                                                                                                     Cunningham B,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26-OCT-2000.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAB28236;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HOMO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAB28236
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10-APR-2000; 2000WO-US09483

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proliferative retinopathies; age-related macular degeneration, rheumatoid arthritis and psoriasis. The polypeptides of the invention exhibit unique receptor binding profiles compared to known naturally occurring VEGFs.
                                                                                                                                                                                                                                                                                                                                           The present invention relates to polypeptides that bind cellular receptors for vascular endothelial growth factors (VEGFs), the polynucleotides encoding them, and their use for identifying agents that modulate interactions between VEGFs and their receptors. VEGFs and their receptors play an important role in vasculogenesis, the development of the embryonic vasculature from early differentiating endothelial cells and angiogenesis, the process of forming new blood vessels from pre-existing ones. Modulators of interactions between VEGF and its receptors may be used to treat dysfunction of the endothelial cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           regulatory system. Such disorders include cancers, abnormal angiogenesis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Vascular endothelial growth factor; VEGF; angiogenesis; wound healing;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  oone growth; osteoporosis; osteoarthritis; bone reconstruction; ulcer; lesion; injury; trauma; periodontal condition; protein therapy; human.
                                                                                                                                                                                                   Polypeptides that bind cellular receptors for vascular endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           present sequence represents the polypeptide encoded by human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New fusion protein comprising a non-heparin-binding vascular endothelial growth factor (VEGF) peptide portion and a non-VEGF portion, useful for promoting anglogenesis and/or bone growth in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 22; Length 54;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 88; DB 22; Length 54
Pred. No. 6.2e-07;
1; Mismatches 3; Indels
                                                                                                                                                                                                                                     growth factors, polynucleotides encoding them
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VEGF-A/VEGF-C hybrid construct clone 12-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human VEGF-A receptor binding domain.
                                                                                                                                                                                                                                                                                            Example 3; Page 200; 261pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAE32330 standard; Protein; 101 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 HHEVVKFEDVLRRSSCHPIE 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ं 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 80.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10-APR-2002; 2002WO-US11406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    10-APR-2001; 2001US-0832355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    24-MAR-2003 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       16; Conservative
                                                                                                               WPI; 2001-536640/59.
N-PSDB; AAS12859.
(LICH ) LICENTIA OY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2003-075536/07
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        54 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200283851-A2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24 -OCT - 2002.
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                                                       Alitalo K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAE32330;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mammals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 5
                                                                                   The present invention relates to mutant human vascular endothelial growth factor (VBGF) proteins (AAB28233-1828236). The present sequence is one such mutant. The mutant VBGF proteins have selective binding affinity for kinase domain region (KDR) receptor. The mutant VBGF proteins are useful for detecting KDR receptors for diagnostic purposes. In addition, the mutant VBGF proteins are useful for stimulating vasculagenesis or and longenesis by exposing mammalian cells expressing a KDR receptor to the mutant proteins to treat trauma to the vascular network caused by
                                                                                                                                                                                                                                                                                         Vascular endothelial growth factor variant useful for detecting kinase domain region receptor for diagnostic purposes, comprises one or more amino acid mutations in native VEGF and has selective binding affinity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              surgical incisions, wounds, lacerations, penetration of blood vessels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Note: the present sequence is not shown in the specification but is derived from the wild-type human VEGF sequence given in Fig 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; vascular endothelial growth factor; VEGF-A; vasculogenesis; angiogenesis; blood vessel; cancer; proliferative retinopathy; psoriasis; age-related macular degeneration; rheumatoid arthritis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 12-16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 191;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note= "VEGF receptor binding domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ouery Match 84.5%; Score.93; DB 21; TBest Local Similarity 85.0%; Pred. No. 3.9e-07; Matches 17; Conservative 1; Migmatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cardiovascular; VEGF-C; mutant; mutein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAU08422 standard; Protein; 54 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HHEVVKFMDVLQRSYCHPIE 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 HHEVVKFEDVLRRSSCHPIE 20
                                                                                                                                                                          Li B;
                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 7; Page -; 70pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (LUDW-) LUDWIG INST CANCER RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 26-FEB-2001; 2001WO-US06113.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000US-0185205.
2000US-0205331.
                        16-APR-1999; 99US-0129788.
23-FEB-2000; 2000US-0184235.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                          Abraham D,
                                                                                                               (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                 WPI; 2000-672736/65.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                and surface ulcers.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  191 AA;
                                                                                                                                                                                                                                                                                                                                                                                   for the receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200162942-A2
                                                                                                                                                                          Cunningham B,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens.
Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            25-FEB-2000;
18-MAY-2000;
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21-NOV-2001

AAU08422;

RESULT 4 AAU08422

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30-AUG-2001

Domain

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Gaps

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The invention relates to a fusion protein comprising non-heparin binding vascular endothelial growth factor (VEGF) peptide portion and a non-VEGF peptide portion useful for promoting angiogenesis and/or bone growth in mammalian host. The fusion protein is useful for promoting angiogenesis, wound healing and bone growth. Compositions containing bone growth or osteoarthrits, to improve poor bone healing, to promote implant integration and function of artificial joints and to facilitate bone reconstruction. They can also be used to treat e.g. ulcers, lesions, injuries, burns, trauma, periodontal conditions, lacerations and other sequence is human VEGF-A receptor binding domain.
Disclosure; Page 118-119; 191pp; English.
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#### 101 AA; Sequence

Gaps ; Length 101; Indels Score 88; DB 24; Le Pred. No. 1.2e-06; 1 HHEVVKFEDVLRRSSCHPIE 20 HILLIII II : II IIIII HEVVKFMDVYQRSYCHPIE 22 80.0%; 80.0%; 16; Conservative Local Similarity Query Match Matches δ g

#### RESULT 6 AAU08484

AAU08484 standard; Peptide; 102 AA

AAU08484;

### VEGFR-1 binding epitope from human VEGF-A.

(first entry)

2:1 - NOV - 2001

Human, vascular endothelial growth factor; VEGF-A; vasculogenesis; angiogenesis; blood vessel; cancer; proliferative retinopathy; psoriasis; age-related macular degeneration; rheumatoid arthritis; cardiovascular; VEGFR-1.

### Homo sapiens

WO200162942-A2:

30-AUG-2001

26-FEB-2001; 2001WO-US06113

25-FEB-2000; 2000US-0185205. 18-MAY-2000; 2000US-0205331.

(LUDW-) LUDWIG INST CANCER RES.

(LICN ) LICENTIA OY.

Jeltsch MM; Alitalo K,

WPI; 2001-536640/59.

Polypeptides that bind cellular receptors for vascular endothelial growth factors, polynucleotides encoding them

The present invention relates to polypeptides that bind cellular receptors for vascular endothelial growth factors (VEGFS), the polynucleotides encoding them, and their use for identifying agents that modulate interactions between VEGFS and their receptors. VEGFS and their receptors play an important role in vasculogenesis, the development of the embryonic vasculature from early differentiating endothelial cells and angiogenesis, the process of forming new blood vessels from pre-existing ones. Modulators of interactions between VEGF and its Example 4; Page 115; 261pp; English

regulatory system. Such disorders include cancers, abnormal angiogenesis, proliferative retinopathies, age-related macular degeneration, rheumatoid arthritis and psoriasis. The polypeptides of the invention exhibit unique receptor binding profiles compared to known naturally occurring VEGFS. The present sequence represents VEGFR-1 binding epitope from human angiogenesis; blood vessel; cancer; proliferative retinopathy; psoriasis; age-related macular degeneration; rheumatoid arthritis; cardiovascular; VEGF-C; mutant; mutein. Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 12-1. Length 102; Score 88; DB 22; Pred. No. 1.3e-06; Mismatches Human; vascular endothelial growth factor; 1 HHEVVKFEDVLRRSSCHPIE 20 HHEVVKFMDVYQRSYCHPIE 23 80.0%; 80.0%; AAU08407 standard; Protein; (first entry) Conservative al Similarity 16; Conserv 102 AA; 21-NOV-2001 AAU08407; Sequence Query Match Best Local Matches RESULT 7 88888888888 ò 셤

/note= "VEGF receptor binding domain" Location/Qualifiers Homo sapiens. Synthetic. Domain

26-FEB-2001; 2001WO-US06113 WO200162942-A2. 30-AUG-2001.

(LUDW-) LUDWIG INST CANCER RES. (LICH) LICENTIA OY. 25-FEB-2000; 2000US-0185205. 18-MAY-2000; 2000US-0205331.

Alitalo K, Jeltsch MM;

2001-536640/59. N-PSDB; AAS12844

Polypeptides that bind cellular receptors for vascular endothelial growth factors, polynucleotides encoding them

Claim 35; Page 182; 261pp; English

The present invention relates to polypeptides that bind cellular receptors for vascular endothelial growth factors (VEGFS), the polynucleotides encoding them, and their use for identifying agents that modulate interactions between VEGFS and their receptors. VEGFS and their receptors play an important fole in vasculogenesis, the development of the embryonic vasculature from early differentiating endothelial cells pre-existing ones. Modulators of forming new blood vessels from pre-existing ones. Modulators of interactions between VEGF and its receptors may be used to treat dysfunction of the endothelial cell regulatory system. Such disorders include cancers, abnormal angiogenesis,

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proliferative retinopathies, age-related macular degeneration, rheumatoid arthritis and psoriasis. The polypeptides of the invention exhibit unique receptor binding profiles compared to known naturally occurring VEGFs.
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                                                                                                                                                                               Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
                                                    The present sequence represents the polypeptide encoded by human VEGF-A/VEGF-C hybrid construct clone 12-1.
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                                                                                                                                        Length 105;
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                                                                                                                                        80.0%; Score (88; DB 22; L
80.0%; Pred. No. 1.3e-06;
iive 1; Mismatches 3;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 36; Page 186-187; 261pp; English.
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                                                                                                                                                                                                                                                                                                                                    AAU08411 standard; Protein; 105 AA
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18-MAY-2000; 2000US-0205331.
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                                                                                                                                                                             Conservative
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N-PSDB; AAS12848.
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Matches 16; Conserva
                                                                                                         105 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           receptors for vascular endothelial growth factors (VEGFS), the polynucleotides encoding them, and their use for identifying agents that modulate interactions between VEGFS and their receptors. VEGFS and their receptors play an important role in vasculogenesis, the development of the embryonic vasculature from early differentiating endothelial cells and angiogenesis, the process of forming new blood vessels from pre-existing ones. Modulators of interactions between VEGF and its receptors may be used to treat dysfunction of the endothelial cell
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receptor binding profiles compared to known naturally occurring VEGFs. The present sequence represents the polypeptide encoded by human VEGF-A/VEGF-C hybrid construct clone 12-5.
                                                                                                                               Gaps
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angiogenesis; blood vessel; cancer; proliferative retinopathy;
psoriasis; age-related macular degeneration; rheumatoid arthritis;
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                                                                                             Length 105;
                                                                                           Score 88; DB 22; Length 10
Pred. No. 1.3e-06;
1; Mismatches 3; Indels
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1..104
/note= "VEGF receptor binding domain"
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Local 16; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present invention relates to polypeptides that bind cellular receptors for vascular endothelial growth factors (VEGFS), the bolynucleotides encoding them, and their use for identifying agents that modulate interactions between VEGFS, and their receptors. VEGFS and their receptors, play an important role in vasculogenesis, the development of the embryonic vasculature from early differentiating endothelial cells
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               anglogenesis; blood vessel; cancer; proliferative retinopathy; psoriasis; age-related macular degeneration; rheumatoid arthritis; cardiovascular; VEGF-C; mutant; mutein.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 14-9.
                                                                                                                         Length 105;
                                                                                                                      Score 88; DB 22; Length 10 Pred. No. 1.3e-06; 1; Mismatches 3; Indels
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VEGF-A/VEGF-C hybrid construct clone 12-14.
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                                                                                                                                                                                                                                                                                                                                                                                                                                              AAU08467 standard; Protein; 105 AA
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18-MAY-2000; 2000US-0205331.
                                                                                                                      80.0%;
80.0%;
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N-PSDB; AAS12886.
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Best Local Similarity
                                                            105 AA;
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Synthetic.
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                                                                                                                         Query Match
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Length 105;

DB 22; 1.3e-06;

Score 88; Pred. No.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         blood vessel injury; vascular injury; microvascular angiopathy;
thrombotic microantiopathy; kidney disease; heamolytic uremic syndrome;
toxic shock syndrome; venom; hypercoagulable state; platelet activation;
platelet aggregation; thrombosis; preeclampsia; sepsis; pancreatis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novel methods and compositions for the prevention and treatment of microvascular angiopathies by administration of angiogenic factors such as vascular endothelial growth factor (VEGF)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human; vascular endothelial growth factor; VEGF 110; angiogenic factor;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          particularly thrombotic microangiopathy. The proteins methods may also be used for the prevention and treatment of kidney diseases associated with injury to, or atrophy of, the vasculature of the glomerulus and interstitum. Conditions which may be treated include haemolytic uremit syndrome, toxic shock syndrome, venom exposure, chemical exposure,
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Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           acute renal failure; myocardial infarction; ischemic bowel disease;
stroke; hypoxia; hypercapnia; fibrosis; toxic alveolar injury;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  intravascular coagulation; thrombotic thrombocytopenia purpura; acute renal failure; myocardial infarction; ischemic bowel dise
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Amino acid sequence of vascular endothelial growth factor 110.
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Mismatches
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                                                                              1 HHEVVKFEDVLRRSSCHPIE 20
                                                                                                                       4 HHEVVKFMDVYQRSYCHPIE 23
                                                                                                                                                                                                                                                                                                                                                          AAY69417 standard; Protein; 110
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16; Conservative
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27-MAR-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      for treating hypertension (especially sait-dependent hypertension)
Administration of VGEF promotes angiogenesis and/or vascular or
applicaty permeability. The method is also useful in treating
disorders related to abnormal transport of solutes across endothelial
cells. Such disorders include the treatment or prevention of kidney
disease associated with impaired filtration or excretion of solutes;
the treatment or prevention of diseases of the central nervous system
associated with alterations in cerebrospinal fluid, e.g. stroke,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        or prevention of hypoxia or hypercapnia or fibrosis arising from accumulation of fluid secretions in the lungs, e.g. acute respiratory
                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              from disordered transport of fluid and solutes across the intesting epithelium, e.g. inflammatory bowel disease, diarrhoea; treatment or prevention of ascites accumulation in the peritoneum; enhancement of efficacy of solute flux; preservation or enhancement of function of organ allografts; and treatment of cardiac valve disease. This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              meningitis, tumour, infections, and bone growth disorders; treatment
                                                                                                                                                                                                                                                                                                                  capillary formation; hypertension; treatment; kidney; CNS; stroke; meningitis; central nervous system; tumour; infection; bone growth; hypoxia; hypercaphia; fibrosis; inflammatory bowel disease; diarrhoea; allografts; cardiac valve.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       distress syndrome, toxic alveolar injury, pneumonia, infections, surgical intervention, cystic fibrosis; treatment or prevention of pulmonary dysfunction arrising from injury to the pulmonary endothelium, including disorders arising from premature birth, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   oulmonary hypertension; treatment or prevention of disease arising
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Administering vascular endothelial growth factor (VGEF) can be
                                                                        ö
                                          Length 110;
                                                                        Indels
                                                                                                                                                                                                                                                                                           Human vascular endothelial growth factor (hVEGF110).
                                       Score 88; DB 21;
Pred. No. 1.4e-06;
1; Mismatches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; Figure 11; 51pp; English
                                                                                                                                                                                                     AAY83038 standard; Protein; 110 AA
                                                                                                                   SYCHPIE 30
                                                                                             RSSCHPIE 20
                                                                      1;
                                         80.0%;
80.0%;
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                                                                                                                                                                                                                                                                (first entry)
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                                                                     Conservative
                                                       Local Similarity
tes 16; Conserv
                                                                                                                          11 ннеуукерф
             110 AA;
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                                                                                                  1 HHEVVKE
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            Sequence
                                                                                                                                                                                                                                   AAY83038;
                                       Query Match
                                                                      Matches
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Kinase domain receptor; KDR; vascular endothelial growth factor; VEGF;
VEGF antibody; angiogenesis; cancer; diabetic retinopathy; psoriasis;
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sequence is the native human vascular endothelial growth factor NVGEFilo. The activity of VGEF is mediated by interaction with specific receptors on target tissues, most notably the vascular endothelium. VGEF exists as five different length monomer chains due to alternative splicing of the VGEF RNA transcript.
                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Novel peptides inhibiting binding of vascular endothelial growth fact
(VEGF) to kinase domain receptor, or inhibiting binding of anti-VEGF
antibody to VEGF, useful for treating diabetic retinopathy and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Plouet J;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Primary sequence of vascular endothelial growth factor (VEGF).
                                                                                                                                                                                                                      Length 110
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Pred. No. 1.4e-06;
!; Mismatches 3; Indels
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Pred. No. 1.4e-06;
1; Mismatches 3;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAG79276 standard; peptide; 110 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               hemangioblastoma; Kaposi's sarcoma
                                                                                                                                                                                                                                                                                                                              1 HHEVVKFEDVLRRSSCHPIE 20
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80.08;
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                                                                                                                                                                                                                      Query Match 80.0°
Best Local Similarity 80.0°
Matches 16; Conservative
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(CNRS ) CNRS
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AAG79276
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1 HHEVVKFEDVLRRSSCHPIE 20

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· 11 HHEVVKFMDVYQRSYCHPIE 30
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AAB50436 standard; Protein; 110 AA AAB50436; RESULT 14 AAB50436

13-MAR-2001 (first entry)

Human VEGF110.

dermatological: immunosuppressive; antiinflammatory; cytostatic; assortopic; antibacterial; anglogenesis; vascular remodelling; vascular disease; kidney disease; diabetes; systemic lupus erythematosus; meningitis; tumour; infection; lung disease inflammatory bowel disease. cardiant; cerebroprotective; hypotensive; nephrotropic; antidiabetic; Human; VEGF; vascular endothelial growth factor; VEGF121; VEGF145;

Homo sapiens.

WO200071713-A1

30-NOV-2000

18-MAY-2000; 2000WO-US13536.

99US-0135312. 20-MAY-1999;

(SCIO-) SCIOS INC.

Abraham JA; Pollitt NS,

WPI; 2001-025162/03.

biological activity of vascular endothelial growth factor by a Cys residue, for producing variant useful for treating ion, stroke, diabetes, lupus, glomerulonephritis, meningitis, tumor, pneumonia, infections -Enhancing biological hypertension, replacing

Disclosure; Fig 12; 62pp; English.

The present sequence is given in a specification relating to a method for enhancing the biological activity of a vascular endothelial growth factor (VEGF) originally having a cysteine residue at a position. 116 of the 121 amino acid native mature human VEGF (The method comprises eliminating the cysteine residue to produce a VEGF variant. The variant is useful for inducing analogenesis or vascular remodelling, for prevention or repair of injury to blood vessels, where injury is associated with haemolytic uraemic syndrome (HUS) or microvascular angiopathy such as thrombotic microangiopathy (TMA). The VEGF variant is also useful for treatment of essential hypertension in a patient. The variant is useful for treating coronary artery disease and/or peripheral arterial disease, to foster myocardial blood vessel growth and to improve blood flow to the heart. It is useful for the treatment and prevention of kidney diseases associated

yloidosis, glomerulonephritis, diabetes, systemic lupus erythematosus chronic hypoxia/atrophy. It is also useful in the preservation or endothelial cells such as meningitis, tumour, infections, disorders of bone growth, acute respiratory distress syndrome, toxic alveolar injury pneumonia, cystic fibrosis, inflammatory bowel disease, infectious with injury to, or atrophy of, the vasculature of the glomerulus and interstitium and for the treatment and prevention of acute renal fail myocardial infarction, ischaemic bowel disease, transient ischaemic enhancement of function of organ allografts and xenografts, and for treating disorders related to abnormal transport of solutes across attacks, stroke, hypoxia, hypercapnia, focal glomerulosclerosis, amyloidosis, glomerulonephritis, diabetes, systemic lupus erythe diarrhoea or cardiac valve disease.

110 AA; Sequence

Length 110; Score 88; DB 22; Pred. No. 1.4e-06; 80.0%; 80.0%; Query Match Best Local Similarity

Gaps vasotropic; ö hypertension; hypotensive; nephrotropic; cerebroprotective; antibacterial; cytostatic; antialcholic; virucide; vasotropic antidiarrhoeic; immunosuppressive; cardiant; antiinflammatory; Vascular endothelial growth factor; VEGF; hVEGF110; human; Indels Human vascular endothelial growth factor 110. Mismatches ABB76304 standard; Protein; 110 AA. 11 HHEVVKFMDVYQRSYCHPIE 30 1 HHEVVKFEDVLRRSSCHPIE 20 ä 98US-099694P. 99US-126406P. 99US-126615P. 99US-0392932 Johnson RJ; (first entry) 16; Conservative WPI; 2002-412951/44. (SCIO-) SCIOS INC. angiogenic factor Schreiner GF, Homo sapiens US6352975-B1 09-SEP-1999; 09-SEP-1998; 26-MAR-1999; 27-MAR-1999; 05-MAR-2002. 12-AUG-2002 ABB76304; RESULT 15 Matches ABB76304 Óγ g 

New method, useful in treatment of salt-sensitive hypertension, comprises administration of a vascular endothelial growth factor to a patient -

Disclosure; Fig 11; 30pp; English.

VEGF110 is not one of the preferred VEGF molecules. The method can also be used to treat disorders relating to abnormal transport of solutes across endothelial cells, including treatment or prevention of kidney disease associated with impaired filtration or excretion by administering a VEGF in an amount effective to reduce the blood pressure of a salt-sensitive hypertension patient to a normal range. The VEGF is preferably hVEGF121 (see ABB76299) or a VEGF that has had its heparin-binding domain modified to render it incapable of binding heparin, e.g. by amino acid alteration. VEGF110 is not one of the preferred VEGF molecules. The method car distress ascites accumulation in the peritoneum as occurs in the failure of The present sequence is the protein sequence of human vascular endothelial growth factor 110 (hVBGF110). The present invention concerns methods for the treatment of salt-sensitive hypertension of solutes, central nervous system diseases associated with alterations in cerebrospinal fluid synthesis, composition or circulation including stroke, meningitis, tumour, infections, and disorders of bone growth, hypoxia or hypercapnia or fibrosis arising from accumulation of fluid secretions in lungs or impediments to their removal, including acute respiratory distress pulmonary air space, pulmonary endothelium injury, disordered transport of fluid and solutes across the intestinal epithelium, including inflammatory bowel disease, infections, diarrhoea, syndrome, toxic alveolar injury as occurs in smoke inhalation, pneumonia including viral and bacterial infections, surgical interventions, cystic fibrosis, and other inherited or acquired disease of the lung associated with fluid accumulation in the

failure

heart, liver and kidney, preservation and enhancement of function of organ allografts, and cardiac valve disease. SXCC

Sequence 110 AA;

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80.0%; Score,88; DB 23; Length 110;
Best Local Similarity 80.0%; Pred. No. 1.4e-06;
Matches 16; Conservative 1; Mismatches 3; Indels

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GenCore version 5.1.6 Copyright (c) 1993 - 2003 Compugen	search, using sw model	4, 2003, 14:43:50 ; Search t (withou	P2 0 HHEVVKFEDVLRRSSCHPIE 20	10.0 , Gapext 0.5	seqs, 42310858 residues	atisfying chosen parameters:	200000000	um Match 0% um Match 100% ng first 45 summaries	Patents_AA:* n2_6/ptodata/1/iaa/5A_COMB n2_6/ptodata/1/iaa/5B_COMB n2_6/ptodata/1/iaa/6A_COMB n2_6/ptodata/1/iaa/6B_COMB n2_6/ptodata/1/iaa/PCTUS_C n2_6/ptodata/1/iaa/PCTUS_C	he number of results predicted than or equal to the score of t by analysis of the total score	SUMMARIES	Length DB ID	48-10 -691-794	4 US-09-574-708A	6 5194596-19	4 US-09-037	4 US-09-519-476-2	4 US-09-392-932-2	4 US-09-037-983C- 3 US-08-807-992B-	US-09-392-932- US-08-706-054A	4 US-09-574-708A 4 US-09-431-888-	4 US-09-313-299-	5 4 US-08-882-816 5 4 US-08-802-052	6 5194596-18 6 5219739-19 4 HS-00-244-583-7	3 US
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US-08-807-992B-2 Sequence 2, Appli 105-08-691-794-2 Sequence 2, Appli 105-08-392-93-33 Sequence 3, Appli 105-09-392-933-33 Sequence 56, Appli 105-09-355-700-56 Sequence 56, Appli 105-09-574-708A-6 Sequence 2, Appli 105-09-574-708A-6 Sequence 2, Appli 105-09-431-888-4 Sequence 2, Appli 105-09-431-888-4 Sequence 2, Appli 105-09-431-888-4 Sequence 2, Appli 105-09-574-708A-8 Sequence 3, Appli 105-09-574-708A-8 Sequence 8, Appli 105-09-574-708A-8 Sequence 8, Appli 105-09-586-0398-49 Sequence 49, Appli 105-09-586-0398-49 Sequence 49, Appli 105-09-769-49 Sequence 40, Appli 105-09-769-49 Sequenc	ALIGNMENTS J.;CONNOLLY, DANIEL T.;FEDER,JOSEPH SEQUENCES ENCODING HUMAN VASCULAR S/07/337,037 4,061	Score 88; DB 6; Length 37; Pred. No. 1.5e-07; 1; Mismatches 3; Indels 0; Gaps E 20 1   E 20   E 20   E 30	H.  H.  n C.  s of Vascular Endothelial Cell Fractor, Their Uses, and Processes for their	, Test, Albritton & Herbert Center, Suite 3400
	J.; CO SEQUE 189 AM A: US/07/ 989 74,061	80.0%; 80.0%; 1ive 1 1ive 1 1	o . oa + +	
191 191 191 191 191 191 191 208 218 218 215 215 215 215	LA 4111 A11 A11 A11 A11 A11 A11 A11 A11 A	80. 80. rvative JVLRRSS 11 : 11	on Bru Ea, Fa, Fa, Fa Gaha Ja	E ADDRESS: Flehr, Hohb our Embarcade Francisco Lifornia finited States 74187 ABLE FORM:
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APPLICANT: PLOUET, JEAN
APPLICANT: VASSAY, ROGER
TITLE OF INVENTION: PEPTIDES BLOCKING VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF)-MF
TITLE OF INVENTION: ANGIOGENESIS, POLYNUCLEOTIDES ENCODING SAID PEPTIDES AND METH
FILE REFERENCE: 205060US0
CURRENT APPLICATION NUMBER: US/09/822,270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: TISCHER, EDMUND G: ABRAHAM, JUDITH A. FEIDDES, JOHN C.; MITCHELL, RICHARD L. TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
                                                                                                                                                                                                                                                                                                                                                                                                                         Length 110;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 110;
                                      APPLICANT: N. Stephen Pollitt
APPLICANT: Judith A. Abraham
TITLE OF INVENTION: Vascular endothelial growth factor
TITLE OF INVENTION: variants
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ouery Match 80.0%; Score 88; DB 4; Best Local Similarity 80.0%; Pred. No. 4.8e-07; Matches 16; Conservative 1; Mismatches 3
                                                                                                                                                                                                                                                                                                                                                                                                                      Score 88; DB 4;
Pred. No. 4.8e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                             FILE REFERENCE: SCIOS004A
CURRENT APPLICATION NUMBER: US/09/574,708A
                                                                                                                                                                                                                                              FEQ ID NOS: 11
FastSEQ for Windows Version 4.0
                                                                                                                                                                          CURRENT FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/135,312
PRIOR FILING DATE: 1999-05-20
NUMBER OF SEQ ID NOS: 11
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PRIOR APPLICATION NUMBER: US 60/193,396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; OTHER INFORMATION: SYNTHETIC PEPTIDE US-09-822-270-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 17, Application US/09822270 Patent No. 6559126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11 HHEVVKFMDVYQRSYCHPIE 30
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DERBIN, CLAUDE
PERRET, GERARD
MAZIE, JEAN-CLAUDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: TOURNAIRE, ROSELYNE
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SOFTWARE: PatentIn version 3.1
SEQ ID NO 17
                                                                                                                                                                                                                                                                                                                                                                                                                      80.0%;
80.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR FILING DATE: 2000-03-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
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Best Local Similarity
Matches 16; Conserva
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                                                                                                                                                                                                                                                                                                                                ; TYPE: PRT
; ORGANISM: HOM
US-09-574-708A-11
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APPLICANT: Johnson, Richard J.
TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND TITLE OF INVENTION: COMPOSITIONS FOR USE THEREIN FILE REFERENCE: SCIOS.002A
CURRENT APPLICATION NUMBER: US/09/392,932
CURRENT FILING DATE: 1999-09
EARLIER APPLICATION NUMBER: 60/099,694
                                             ersion #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 3; I
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                                                                                                                                                                                                                                                                                                     NAME: Dreger, Walter H.
REGISTRATION NUMBER: 24,190
REFERNCE/DOCKET NUMBER: A-63758/WHD
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
TELEFAX: (415) 398-3249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 88;
Pred. No.
                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/002,827
FILING DATE: 25-AUG-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/567,200
FILING DATE: 05-DEC-1995
ATTORNEY/AGENT INFORMATION:
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1; Misma
                                                                      FILING DATE: 02-AUG-1996
CLASSIFICATION: 435
IOR APPITATION:
                                        Patentin Release #1.0,
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 11, Application US/09392932
Patent No. 6352975
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80.08;
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Best Local Similarity 80.0%;
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NFORMATION FOR SEQ ID NO: 3:
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LENGTH: 109 amino acids
TYPE: amino acid
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Best Local Similarity 80.0%
Matches 16; Conservative
                                                               CURRENT APPLICATION DATA:
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LENGTH: 110
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GROWTH FACTOR

US-09-574-708A-11 Sequence 11, Appligation US/09574708A

RESULT 4

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TYPE: PRT

Matches

Indels

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TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular
FILE REFERENCE: 000274-00009
CURRENT APPLICATION NUMBER: U5/09/037,983C
CURRENT FILING DATE: 1998-03-11
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CURRENT APPLICATION NUMBER: US/09/519,476
CURRENT FILING DATE: 2000-03-09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 138;
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    Length 137,
    Score 88; DB 4; Length 137
Pred. No. 6.2e-07;
1; Mismatches 3; Indels
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Pred. No. 6.3e-07;
1; Mismatches 3;
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Pred. No. 6.2e-07;
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US-09-037-983C-16
'Sequence 16, Application US/09037983C'
Patent No. 6583276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: 60/025,537
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PRIOR FILING DATE: 1999-03-05
NUMBER OF SEQ ID NOS: 2
SOPTWARE: Patentin, version 3:0
                                                                                           1 HHEVVKFEDVLRRSSCHPIE 20
                                                                                                                  11 HHEVVKEMDVYQRSYCHPIE 30
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Best Local Similarity 80.0%;
Matches 16; Concount
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SOFTWARE: PatentIn version 3:1
                                                                                                                                                                                                                                                                                                                                                  Vlodavsky, Israel
Poltorak, Zoya
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR FILING DATE: 1996-09-06
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Best Local Similarity 80.09
Matches 16; Conservative
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Best Local Similarity 80.09
Matches 16; Conservative
                                                                                                                                                                                                                                                                                                       APPLICANT: Newfeld, Gera APPLICANT: Keshet, Eli
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FILE REFERENCE: 000274-00009
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TITLE OF INVENTION: DNA SEQUENCES ENCODING BVEGF120 AND
HYBGF 121 AND METHODS FOR THE PRODUCTION OF BOYINE AND HUMAN
VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVEGF120 AND HVEGF121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 121;
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Pred No. 5.4e-07;
1; Mismatches 3;
                                                                                                                                                                                                                                         Query Match 80.0%; Score 88; DB 6; Best Local Similarity 80.0%; Pred. No. 5.4e-07; Matches 16; Conservative 1; Mismatches 3
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NUMBER OF SEQUENCES: 32
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/450,883
FILING DATE: 14-DEC-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/07/559,041 FILING DATE: 27-JUL-1990
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PRIOR APPLICATION NUMBER: 60/025,537
PRIOR FILING DATE: 1996-09-06
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Patent No. 6583276
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FILING DATE: 14-DEC-1989
PAPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
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Best Local Similarity 80.0%;
Matches 16; Conservative 1
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SOFWARE: Patentin version 3.1
SEQ ID NO 17
EMCTH: 137
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US-09-037-983C-17
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5219739-20
                                                                                                                                                                          LENGTH: 121
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                                                                                                                                                   SEQ ID NO:19:
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APPLICANT: Vlodavsky, Israel
APPLICANT: POLICORAK, Zoya
APPLICANT: POLICORAK, Zoya
TILE OF INVENTION: Anglogenic Factor and Use Thereof in Treating Cardiovascular
FILE REFERENCE: 000274-00009
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                                                                                   Length 145;
                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: Vascular endothelial growth factor TITLE OF INVENTION: variants
                                                                                Score 88; DB 4;
Pred. No. 6.5e-07;
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80.0%; Pred. No. 6.5e-07;
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                                                                                                                                1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILE REFERENCE: SCIOSO04A
CURRENT APPLICATION NUMBER: US/09/574,708A
CURRENT FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/135,312
PRIOR FILING DATE: 1999-05-20
NUMBER OF SEO ID NOS: 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION NUMBER: US/09/037,983C
CURRENT FILING DATE: 1998-03-11
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PRIOR APPLICATION NUMBER: 60/025,537
PRIOR FILING DATE: 1896-09-06
NUMBER OF SEQ ID NOS: 17
                                                                                                                                                                                                                                                                                                                        Sequence 4, Application US/09574708A Patent No. 6475796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 2, Application US/09037983C
Patent No. 6583276
GENERAL INFORMATION:
APPLICANT: Newfeld, Gera
                                                                                                                                                                          1 HHEVVKFEDVLRRSSCHPIE 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 HHEVVKFEDVLRRSSCHPIE 20
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                                                                                                                                                                                                                 11 HHEVVKFMDVYQRSYCHPIE 30
                                                                                80.08;
milarity 80.08;
Conservative 1
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APPLICANT: Judith A. Abraham
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: PatentIn version 3.1 SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ouery Match 80.0%;
Best Local Similarity 80.0%;
Matches 16; Conservative
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; TYPE: PRT
; ORGANISM: Homo Sapiens
US-09-392-932-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM: Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: PRT ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity
Matches 16; Conserva
                                                                                                         Best Local Similarity
Matches 16; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 145
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                                                                                       Query Match
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APPLICANT: Schreiner, George F.
TTLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND TITLE OF INVENTION: COMPOSITIONS FOR USE THEREIN FILE REFRENCE: SCIOS.002a
CURRENT APPLICATION NUMBER: 05/09/392,932
CURRENT FILING DATE: 1999-09-09
EARLIER APPLICATION NUMBER: 60/099,694
EARLIER FILING DATE: 1998-09-09
NUMBER OF SEO ID NOS: 11
SOFTWARE: FASTSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                     APPLICANT: Zoya Poltorak
TITLE OF INVENTION: ANGIOCENIC FACTOR AND USE THEREOF
TITLE OF INVENTION: IN TREATING CARDIOVASCULAR DISEASE
TUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                              E: Blank, Rome, Comisky & McCauley LLP 900 17th Street, N.W. Suite 1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 88; DB 3;
Pred. No. 6.5e-07;
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                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb MEDIUM TYPE: storage
                                                                                                                                                                                                                                                                                                                                                                                                                             COMPOTER: IBM Compatible
OPERATING SYSTEM: IBM P.C. DOS 5.0
SOFTWARE: FastSEC for Windows 2.0
CURRENY APPLICATION DATA:
APPLICATION NUMBER: US/08/784,551C
FILING DATE: January 21, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11 HHEVVKFMDVYQRSYCHPIE 30
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: Cohen, Herbert
REGISTRATION NUMBER: 25,109
REFERENCE/DOCKET NUMBER: 0274
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 463-7700
TELEFAX: (202) 463-6915
                                                                                   Israel Vlodaysky
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 80.0%;
Best Local Similarity ~80.0%;
Matches 16; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 145 amino acids
TYPE: amino acid
                                        Gera Neufeld
Eli Keshet
                                                                                                                                                                                                                                                                               Washington, D.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION DATA: APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                          U.S.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                            20006
                                                                                                                                                                                                              ADDRESSEE:
STREET: 90
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                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                            COUNTRY:
                                                              APPLICANT:
                                                                                                                                                                                                                                                           STREET:
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11 HHEVVKFMDVYQRSYCHPIE 30

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REBUILATION OF CONTRICT IN SECONDARY REPORTATION:

SEQUENCE 1, APPLICATION US/08807992B

SEQUENCE 1, APPLICATION US/08807992B

PAPELICANT: DOVICEM, HAROLIG F

TITLE OF INVENTION: Thumunological preparation for concurrent

TITLE OF INVENTION: Thumunological preparation for concurrent

TITLE OF INVENTION: Permeability factor bound in vivo to a tumor associated blood of the preparation of the
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Search completed: July 24, 2003, 14:51:31 Job time : 19.0588 secs

1111111 | 1 : 11 | 1111 | 37 HHEVVKFMDVYQRSYCHPIE 56

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GenCore version 5.1.6 Copyright (c) 1993 - 2003 Compugen Ltd.
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OM protein - pro	OM protein - protein search, using sw model	
Run on:	July 24, 2003, 14:47:39; Search time 38.8235 Seconds (without alignments) 61.179 Million cell updates/sec	
Title: Perfect.score: Sequence:	PEP2 110 1 HHEVVKFEDVLRRSSCHPIE 20	
Scoring table:	BLOSUM62 Gapop 10.0 , Gapext 0.5	
Searched:	451899 seqs, 118759770 residues	
Total number of	Total number of hits satisfying chosen parameters: 451899	
Minimum DB seq length: 0 Maximum DB seq length: 200	Minimum DB seq length: 0 Maximum DB seq length: 200000000	

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Published Applications\_AA:\*

1: /cgn2\_6/ptodata/2/pubpaa/US07\_PUBCOMB.pep:\*

2: /cgn2\_6/ptodata/2/pubpaa/US07\_NEW\_PUB.pep:\*

3: /cgn2\_6/ptodata/2/pubpaa/US06\_NEW\_PUB.pep:\*

4: /cgn2\_6/ptodata/2/pubpaa/US06\_NEW\_PUB.pep:\*

5: /cgn2\_6/ptodata/2/pubpaa/US07\_NEW\_PUB.pep:\*

6: /cgn2\_6/ptodata/2/pubpaa/US07\_NEW\_PUB.pep:\*

7: /cgn2\_6/ptodata/2/pubpaa/US08\_PUBCOMB.pep:\*

8: /cgn2\_6/ptodata/2/pubpaa/US08\_PUBCOMB.pep:\*

9: /cgn2\_6/ptodata/2/pubpaa/US08\_PUBCOMB.pep: 10: /cgn2\_6/ptodata/2/pubpaa/US08\_PUBCOMB.pep: 11: /cgn2\_6/ptodata/2/pubpaa/US098\_PUBCOMB.pep: 11: /cgn2\_6/ptodata/2/pubpaa/US098\_PUBCOMB.pep: 12: /cgn2\_6/ptodata/2/pubpaa/US098\_PUBCOMB.pep: 13: /cgn2\_6/ptodata/2/pubpaa/US09\_NEW\_PUB.pep: 13: /cgn2\_6/ptodata/2/pubpaa/US10A\_PUBCOMB.pep: 13: /cgn2\_6/ptodata/2/pubpaa/US10A\_PUBCOMB.pep: 14: /cgn2\_6/ptodata/2/pubpaa/US10A\_PUBCOMB.pep: 15: /cgn2\_6/ptodata/2/pubpaa/US10A\_PUBCOMB.pep: 16: /

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### STIMMARTE

Result No.	Score	Query Match	Query Match Length DB	DB	ΩI	Description
	88	80.0	54	10	US-09-795-006A-81	Sequence 81, Appl
7	88	80.0	101	Ξ	US-09-832-355A-2	Sequence 2, Appli
m	88	80.0	105	10	US-09-795-006A-51	Sequence 51, Appl
4	88	80.0	105	10	US-09-795-006A-59	Sequence 59, Appl
S	88	80.0	105	10	US-09:795-006A-77	Sequence 77, Appl
9	88	80.0	105	10	US-09-795-006A-153	Sequence 153, App.
7	88	80.0	110	6	US-09-822-270-17	Sequence 17, Appl
<b>ω</b>	88	80.0	110	·14	US-10-083-817-11	Sequence 11, Appl
6	88	80.0	110	15	US-10-268-447-11	Sequence 11, Appl
10	. 88	80.0	121	11	US-09-832-355A-1	Sequence 1, Appli
11	88	80.0	126	10	US-09-795-006A-43	Sequence 43, Appl
12	88	80.0	126	10	US-09-795-006A-53	Sequence 53, Appl
13	88	80.0	126	10	US-09-795-006A-55	Sequence 55, Appl
14	88	80.0	126	10	US-09-795-006A-57	57,
15	88	80.0	126	10	US-09-795-006A-61	Sequence 61, Appl

Sequence 2, Application US/09832355A Publication No. US20030027751A1

US-09-832-355A-2

4 HHEVVKFMDVYQRSYCHPIE 23

g Pp

63, 65, 67,	Sequence 71, Appl Sequence 73, Appl Sequence 75, Appl Sequence 79, Appl Sequence 2, Appli Sequence 2, Appli Sequence 4, Appli	Sequence 1, Appli Sequence 2, Appli Sequence 61, Appl Sequence 62, Appl Sequence 62, Appl Sequence 3, Appli Sequence 3, Appli Sequence 2, Appli Sequence 8, Appli	2, 1 2, 2 2, 2 3, 3, 3, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6,
		147 14 US-10-083-817-1 147 15 US-10-268-447-2 150 11 US-09-832-355A-61 154 11 US-09-832-355A-60 162 11 US-09-832-355A-60 162 11 US-09-832-355A-60 165 15 US-10-200-050-3 171 9 US-09-813-338-8	191 9 US-09-349-954A-2 191 10 US-09-932-451A-2 191 10 US-09-97-007-2 191 10 US-09-97-007-2 191 10 US-09-870-759-122 191 14 US-10-083-817-3 191 15 US-10-201-386-56 191 15 US-10-201-386-56
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#### ALIGNMENTS

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; OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hyt
US-09-795-006A-59
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAS AND PROTEINS
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                                                                                                                                                                                                                                                        Length 105;
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                                                                                                                                                                                                                                                      80.0%; Score 88; DB 10;
80.0%; Pred. No. 1.7e-06;
tive 1; Mismatches 3
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80.0%; Pred. No. 1.7e-06;
tive 1; Mismatches 3
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PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR PLING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION NUMBER: US/09/795,006A
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CURRENT APPLICATION NUMBER: US/09/795,006A
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PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION UNMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
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Patent No. US20020151680A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 77, Application US/09795006A Patent No. US20020151680A1
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ORGANISM: Artificial Sequence
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NUMBER OF SEQ ID NOS: 175
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 59
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SOFTWARE: Patentin Ver. 2.0
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Matches 16; Conservative
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Matches 16; Conserv
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COTHER INFORMATION:
US-09-795-006A-77
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-795-006A-153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -09-795-006A-77
                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                      FEATURE:
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US-09-795-006A-51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Alitalo et al TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAS AND PROTEINS FILE REFERENCE: 28967/29977B CURRENT APPLICATION NUMBER: US/09/795,006A CURRENT FILING DATE: 2001-02-26
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TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAS AND PROFEINS
FILE REFERENCE: 28967/39778
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1.6e-06;
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                                                                                                                                                                                                                                                                                                                                                                                                                                 3; Indels
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                                                                                                                                                                                                                                                                                                                                                                             ch 80.0%; Score 8%; DB 1 Similarity 80.0%; Pred. No. 1.6e 16; Conservative 1; Mismatches
                                                                                             FILE REFERENCE: 205654
CURRENT APPLICATION NUMBER: US/09/832,355A
CURRENT FILING DATE: 2001-04-10
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  GENERAL INFORMATION:
PAPLICANT: KOVESIG', Imre
APPLICANT: Kessler, Paul
TITLE OF INVENTION: VEGF FUSION PROTEINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
NUMBER OF SEQ ID NOS: 175
SOFTWARE: PATENTIN Ver. 2.0
SEQ ID NO 51
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PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
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Patent No. US20020151680A1
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                                                                                                                                                                        NUMBER OF SEQ ID NOS: 126
SOFTWARE: PatentIn version 3.0
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Best Local Similarity 80.0%;
Matches 16; Conservative
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US-09-832-355A-2
                                                                                                                                                                                                                         SEQ ID NO 2
LENGTH: 101
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Best Local S
Matches 16
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Gaps
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                                                                                                                                                                                                                                                                                                                                                             APPLICANT: N. Stephen Pollitt | APPLICANT: Judith A. Abraham TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR TITLE OF INVENTION: VARIANTS |
                                                    80.0%; Score 88; DB 14; I
80.0%; Pred. No. 1.8e-06;
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Pred. No. 1.8e-06;
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                                                                                                       1; Mismatches
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CURRENT FILING DATE: 2002-10-10
PRIOR PRILING DATE: 1999-05-20
PRIOR FILING DATE: 1999-05-20
PRIOR FILING DATE: 2000-05-18
PRIOR FILING DATE: 2000-05-18
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 11
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APPLICANT: Kessler, Paul
TITLE OF INVENTION: VEGF FUSION PROTEINS:
FILE REPERENCE: 205654
CURRENT APPLICATION NUMBER: U$/09/832,355A
CURRENT FILING DATE: 2001-04:10
WUMBER OF SEQ ID NOS: 126
SOFTWARE: PatentIn Version 3:0
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    ORGANISM: Homo Sapien
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Best Local Similarity
Matches 16, Conserv
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Best Local Similarity
Matches 16; Conserv
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Best Local Similarity
Matches 16; Conserv
                     US-10-083-817-11
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APPLICANT: DEMANGEL, CAROLINE
APPLICANT: DERBIN, CLAUDE
APPLICANT: DERBIN, CLAUDE
APPLICANT: PERRET, GERAN
APPLICANT: PLOUET, JEAN-CLAUDE
APPLICANT: PLOUET, JEAN
APPLICANT: VASSAY, ROGER
TITLE OF INVENTION: ANGIOGENESIS, POLYNUCLEOTIDES ENCODING SAID PEPTIDES AND METHODE
                        ; OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybriq
US-09-795-006A-153
                                                                                                                                                     Gaps
                                                                                                       Length 105;
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APPLICANT: Schreiner, George F.
TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND TITLE OF INVENTION: COMPOSITIONS FOR USE THEREIN CORRENT APPLICATION NUMBER: US/10/083,817
CURRENT APPLICATION NUMBER: US/099,694
PRIOR APPLICATION NUMBER: 00/099,694
PRIOR APPLICATION NUMBER: 09/392,932
PRIOR PLING DATE: 1999-09-09
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                                                                                                  Score 88; DB 10; Length 10
Pred. No. 1.7e-06;
1; Mismatches 3; Indels
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Pred. No. 1.8e-06;
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SOFWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 11
LENGTH: 110
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CURRENT APPLICATION NUMBER: US/09/822,270
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PRIOR APPLICATION NUMBER: US 60/193,396
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                                                                                                                                                                                                                                                                                                                                       Sequence 17, Application US/09822270 Patent No. US20020068697A1 GENERAL INFORMATION:
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: Sequence 11, Application US/10083817
: Publication No. US20020193288A1
: GENERAL INFORMATION:
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ORGANISM: Artificial Sequence
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NUMBER OF SEQ ID NOS: 17
SOFTWARE: Patentin version 3.1
SEQ ID NO 17
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ilarity 80.0%;
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Best Local Similarity 80.0%;
Matches 16; Conservative
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Best Local Similarity
Matches 16; Conserv
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; OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hyl US-09-795-006A-55
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                                                                                       TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAS AND PROTEINS FILE REFERENCE: 28967/359778
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TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCUI
TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAS AND PROTEINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 126;
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Pred. No. 2.1e-06;
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                                                                                                                                                                 CURRENT APPLICATION NUMBER: US/09/795,006A
                                                                                                                                                                               CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: Patentin Ver. 2.0
LENGTH: 126
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CURRENT APPLICATION NUMBER: US/09/795,006A
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PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION UNMBER: US 60/185,205
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PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
Sequence 55, Application US/09795006A Patent No. US20020151680A1
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Patent No. US20020151680A1
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ORGANISM: Artificial Sequence
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SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 57
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                                                                    APPLICANT: Alitalo et al
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US-09-795-006A-57
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Best Local S
Matches 16
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; OTHER INFORMATION: DNA
US-09-795-006A-43
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CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
PRIOR PAPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
                                                                                                                                                         TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAS AND PROTEINS FILE REFERENCE: 28967/35977B CURRENT APPLICATION NUMBER: US/09/795,006A CURRENT FILING DATE: 2001-02-26 PRIOR APPLICATION NUMBER: US 60/205,331 PRIOR APPLICATION DEFENDED FOR SECONDARY FILING DATE: 2000-05-18
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Pred. No. 2.1e-06;
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Pred. No. 2.1e-06;
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                                                                 Sequence 43, Application US/09795006A
Patent No. US20020151680A1
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Patent No. US20020151680A1
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80.0%;
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NUMBER OF SEQ ID NOS: 175
SOFTWARE: PatentIn Ver. 2.0
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NUMBER OF SEQ ID NOS: 175
SOFTWARE: PatentIn Ver. 2.0
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Best Local Similarity 80.09
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Best Local Similarity
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US-09-795-006A-55
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
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GENERAL INFORMATION

APPLICANT: Alitalo et al

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pep2.rapb
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TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
COHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid US-09-795-006A-61
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAS AND PROTEINS
FILL REPERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
PRIOR PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR PLILING DATE: 2000-05-18
PRIOR PLILING DATE: 2000-05-18
FRIOR PLILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: PALENTIN VET. 2.0
SEQ ID NO 61
LENGTH: 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 126;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match

80.0%; Score 88; DB 10; L
Best Local Similarity 80.0%; Pred. No. 2.1e-06;
Matches 16; Conservative 1; Mismatches 3;
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Indels

Search completed: July 24, 2003, 15:02:51 Job time: 39.8235 secs

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## GenCore version 5.1.6 Copyright (c) 1993 - 2003 Compugen Ltd.

protein search, using sw model OM protein

July 24, 2003, 14:42:56

Run on:

; Search time 15.2941 Seconds

1 HHEVVKFEDVLRRSSCHPIE 20 Title: Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5

Scoring table:

283308 segs, 96168682 residues Searched:

283308 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 08 Maximum Match 1008 Listing first 45 su

1: pirl:\*
2: pir2:\*
3: pir3:\*
4: pir4:\* PIR\_76: Database :

score greater than or equal to the score of the result bell and is derived by analysis of the total score distribution. Pred. No. is the number of results predicted

#### SUMMARIES

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Description	vascular endotheli	vascular endotheli	vascular endotheli	vascular endotheli	glioma-derived vas	vascular endotheli	vascular endotheli	ovine vascular end	vascular endotheli	placental growth f	carbamoy1-phosphat	dna repair protein	beta-glucuronidase	conserved hypothet	hypothetical prote	heat-stable entero	placental growth f	auxin-induced prot	auxin-induced prot	auxin-induced prot	. DNA mismatch repai	ALK1 protein - yea	hypothetical prote	prolyl -tRNA synth	eukin-1	GATA transcription	GATA-binding trans	[protein-PII] urid	protein PII-uridyl
								•								-								,					
ID	A41551	A33787	\$52130	B40080	A35987	B44881	A44881	\$57956	A60706	A56125	A70480,	T41457	A26581;	F69012	T02368	OYRTHX	A41236	S58492	S12244	G86289	877533	S64023	T47813	E90203	JQ1526	H85408"	T05288	G64740	A90650
DB	7	~	7	~	Ŋ	~	~	~	~	~	~	7	~	7	7		~	ď	7	Ċ	~	7	~	7	'n	7	7	7	7
Length	232	120	190	190	190	190	214	146	36	158	557	1140	651	202	450	1075	149	174	174	174	563	160	445	481	555	269	269	890	890
Query Match	80.0	65.5	65.5	65.5	65.5	64.5	64.5	62.7	59.1	44.5	44.5	43.6	42.7	41.8	40.9	40.9	40.0	40.0	40.0	.40.0	40.0	40.0	39.5	39.5	39.5	39.1	39.1	39.1	39.1
Score	88	. 72	72	72	72	71	71	69	65	49	49	48	47	46	45	45	44	44	44	44	4.4	44	43.5	43.5	43.5	43	43	43	43
Result No	1	7	e	. ♣	ហ	9		60	6	10	11	12	13	14	15	16	17	18	19	8	21	22	23	24	25	56	27	. 28	53

B:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M6397 S.D.; Krivi, G.; Sanzo, K.; Warren, T.; Feder, J.; Connolly,

Residues: 1-141,227-232 <TI3> Cross-references: GB:M63971; G

Title: Vascular permeability factor, an endothelial cell mitogen related to PDGF Reference number: A40079; MUID:90069609; PMID:2479987

compared with conceptual translation

A, Title: Vascular endothelial growth factor is a secreted angiogenic mitogen. Cross-references: GB:M27281; NID:9340300; PIDN:AAA36807.1; PID:9340301 Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N. Sience 246, 1306-1309, 1989

əsidues: 1-140,′N′,183-232 <TI2> ross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M6397

protein PII-uridyl	hypothetical prote	nerve growth facto	traJ protein homol	ORF MSV241 leucine	protein T23E18.6 [	probable membrane	2-isopropylmalate	regulatory protein	hypothetical prote	conserved hypothet	hypothetical prote	hypothetical prote	EFRF2 protein - hu	hypothetical prote	bromocontryphan pr	
		• •														
															•	
1	96	7	. 88	2	. 68	53	34	14	34	60	74	21	90	30		
A85501	<b>S46696</b>	A5690	T43088	T28402	C96789	E70829	AD1694	S14944	<b>T49184</b>	B69209	T43974	T4416	T0930	T21830	A5851	
~	2	~	~	7	~	~		~	~	~	~	~	~	~	7	
890	229	21	152	387	412	456	512	528	540	545	605	610	623	527	63	
_	9	7	7	7	~	7	7	7	7	7	7	7	7	7	۳	
39.	38.	38.	38.	38.	38.	38.	38.	38.	38.	38.	38.	38.	38.	37	37.	
43	42.5	42	42	42	42	4.2	42	42	42	42	42	42	42	41.5	41	
30	31	. 32	33	34	35	36	37	38	39	40	41	42	43	44	. 45	

#### ALIGNMENTS

RESULT 1 A41551	vascular endothelial growth factor 206 precursor - human N'Alternate names: vascular permeability factor N'Contains: vascular endothelial growth factor 121 (VEGF 121); VEGF 165; VEGF 189; C.Species: Homo sapiens (man)	C;Date: 28-Aug-1992 #sequence_revision 28-Aug-1992 #text_change 05-Nov-1999 C;Accession: A41551; C41551; B41551; A40454; B40454; C40454; A40079; A40080; J0146: R;Houck, K.A.; Ferrara, N.; Winer, J.; Cachianes, G.; Li, B.; Leung; D.W. Mol. Endocrinol. 5, 1806-1814, 1991	A; Title: The vascular endothelial growth factor family: identification of a fourth A; Reference number: A41551; MUID:92168017; PMID:1791831 A; Accession A41551	A; Molecule Lype: MRNA A; Residues: 1-232 <hou1> A; Cross-references: GB:S85192; NID:9246155; PID:9246156 A; Accession: C41551</hou1>	A;Status: nucleic acid sequence not shown A;Molecule type: mRNA A;Residues: 1-140,'N',183-232 <hou2> A;Accession: 841551</hou2>		R;Tischer, E.; Mitchell, R.; Hartman, T.; Silva, M.; Gospodarowicz, D.; Fiddes, J.C. J. Biol. Chem. 266, 11947-11954, 1991 A;Title: The human gene for vascular endothelial growth factor. Multiple protein fc A;Reference number: A40454; MUID:91268072; PMID:1711045	A; Accession: A40454 A; Molecule type: DNA A	TOWARD TO THE TOTAL OF THE TOTA
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C;Species: Sus scrofa domestica (domestic pig)
C;Date: 14-Vul-1995 #sequence_revision 21-Jul-1995 #text_change 05-Nov-1999
C;Accession: S52130
R;Sharma, H.S.; Tang, Z.H.; Gho, B.C.G.; Verdouw, P.D.
Biochim. Biophys. Acta 1260, 235-238, 1995
A;Title: Nucleotide sequence and expression of the porcine vascular endothelial growt A;Reference number: S52130; MUID:95143284; PMID:7841203
A;Accession: S52130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R;Ferrara, N.;, Henzel, W.J.
Blochem. Blophys. Res. Commun. 161, 851-858, 1989
A:Title: Pituitary follicular cells secrete a novel heparin-binding growth factor spe
A;Reference number: A33255; MUID:89286596; PMID:2735925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Title: Vascular endothelial growth factor is a secreted angiogenic mitogen. A;Reference number: A40080; MUID:90069608; PMID:2479986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C;Species: Bos primigenius taurus (cattle)
C;Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 05-Nov-1999
C;Accession: B40080; B33787; A33255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ssidues: 27-190 27.190 coss-references: GB:M31836; NID:g163808; PIDN:AAA30804.1; PID:g163809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Cross-references: GB:X81380; NID:9587559; PIDN:CAA57143.1; PID:9587560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            F;100/Binding site: carbohydrate (Asn) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ischer, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Sc
Chem. Biophys. Res. Commun. 165, 1199-1206, 1989
itle: Vascular endothelial growth factor: a new member of
eference number: A33787; MuID:90121225; PMID:2610687
ccession: B33787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ssidues: 1-190 <LEU>
coss-references: GB:M32976; NID:9163006; PIDN:AAA30502.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RiLeung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.;
Science 246, 1306-1309, 1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      vascular endothelial growth factor precursor (version 2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     F;1-26/Domain: signal sequence #status predicted <SIG>F;27-190/Product: vascular endothelial growth factor #
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  65.5%; Score 72; DB 2; 73.7%; Pred. No. 0.00078;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     72; DB 2;
No. 0.00078;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 HEVVKFEDVLRRSSCHPIE 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           . 2 HEVVKFEDVLRRSSCHPIE 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               55
                                                                                                                               growth factor
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  65.5%;
nilarity 73.7%;
Conservative
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A; Residues: 27-31 <FER>
                                                                                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: mRNA
A; Residues: 1-190 <SHA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                          A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 folecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ecule type: mRNA
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Best Local Simi
Matches 14;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Description: promotes fluid and protein leakage from blood vessels
C; Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; extracellular pro
C; Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; extracellular pro
F; 1-165,183-232/Product: vascular endothelial growth factor 189 precursor #status predic
F; 1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status predic
F; 1-26/Domain: signal sequence #status predicted <SIG>
F; 1-141/Binding site: carbohydrate (Asn) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hay
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rifischer, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Crisp
Blochem. Biophys. Res. Commun. 165, 1198-1206, 1989
A;Title: Vascular endothelial growth factor: a new member of the platelet-derived growth
A;Reference number: A33787; MUID:90121225; PMID:2610687
                                                                                                                                                                                                          ochem. Biophys. Res. Commun. 183, 1167-1174, 1992
Title: AIDS-associated Kaposi's sarcoma cells in culture express vascular endothelial
Reference number: JQ1463; MUID:92231879; PMID:1567395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Siegel, N.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ·
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ssidues: 27-36,43-49, R',72-76,'0',78-81,59-71 <CON>
nument: The most common of several alternatively spliced forms is VEGF 165.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Species: Bos primigenius taurus (cattle)
C;Date: 16-Mar-1990 #sequence_revision 16-Mar-1990 #text_change 05-Nov-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                    :oss-references: GB:M32977; NID:g181970; PIDN:AAA35789.1; PID:g181971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Cross-references: GB:M33750; NID:g163810; PIDN:AAA30805.1; PID:g163811
C;Keywords: alternative splicing
                                                                                                                                                                                                                                                                                                                                                                                       oss-references: EMBL:X62568; NID:g37658; PIDN:CAA4447.1; PID:g37659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             U937 cells.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 88; DB 2; Length 232;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 120;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ly, D.T.; Olander, J.V.; Heuvelman, D.; Nelson, R.;
Chem. 264, 20017-20024, 1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    le: Human vascular permeability factor. Isolation from
erence number: A34492; MUID:90062112; PMID:2584205
number: A40080; MUID:90069608; PMID:2479986
A40080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         vascular endothelial growth factor (version 1) - bovine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 80, 2. -,
Pred. No. 2.9e-06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 2,
0.0005;
                                                                  tus: not compared with conceptual translation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sidues: 1-140, N', 227-232 <WE2>
                                                                                                                                                                                                                                                                                                                                                                                                                     perimental source: AIDS-Kaposi's sarcoma cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    65.5%; Score 72; 73.7%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ss-references: GDB:132244; OMIM:192240 position: 6p21-6p12
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                                                                                                                                                                                     Weindel, K.; Marme, D.; Weich, H.A.
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                                                                                                                                                                                                                                                                                                                                                           1-140,'N',183-232 <WEI>
                                                                                                                      -140, 'N', 183-232 <LEU>
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llarity 80.0%;
Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ule type: protein
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Best Local Similarity
Matches 16; Conserv
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hes 14; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ecule type: mRNA
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                                                                                                   ecule type: mRNA
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Matches
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glioma-derived vascular endothelial cell growth factor - rat

A35987

11-HEVVKFMDVYQRSFCRPIE 29

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Gaps

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Residues: 1-140,209-214 <BR2>
Cross-references: GB:S38100; NID:g249860; PIDN:AAB22254.1; PID:g249861
NOte: sequence extracted from NCBI backbone (NCBIN:107624, NCBIP:107625)
Clauss, M.; Gerlach, M.; Gerlach, H.; Brett, J.; Wang, F.; Familletti, P.C.; Pan, Exp. Med. 172, 1535-1545, 1990
Title: Vascular permeability factor: a tumor-derived polypeptide that induces encircle number: A60932; MUID;91079755; PMID:2258694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Biochim. Biophys. Acta 1224, 365-370, 1994
A;Title: Enhanced expression of multiple forms of VEGF is associated with spontanec
A;Reference number: S52136; MUID:95101726; PMID:7803491
A;Accession: S52136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C;Comment: Homodimers could be demonstrated for recombinant VEGF-2 but not VEGF-3. C;Keywords: alternative splicing; anglogenesis; disulfide bond; glycoprotein; homoc F:1.26.Domain: signal sequence #status predicted <SIG-5.14/Product: vascular endothelial growth factor-3 #status experimental <MAT>
                  A;Title: Expression of vascular endothelial growth factor during embryonic anglogen A;Reference number: A44881; MUID:92274860; PMID:1592003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ovine vascular endothelial growth factor - sheep
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 13-Jan-1996 #sequence_revision 01-Mar-1996 #text_change 05-Nov-1999
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N'Alternate names: vascular permeability factor
C;Species: Cavia porcellus (guinea pig)
C;Date: 14-May-1993 #Sequence_revision 14-May-1993 #text_change 17-Mar-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Cross-references: EMBL: X89506; NID: 9899350; PIDN: CAA61677.1; PID: 9899351
                                                                                                                                                                                                                                    Note: sequence extracted from NCBI backbone (NCBIN:104677, NCBIP:104678)
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                                                                                                                                                                        Cross references: GB:S37052; NID:g249856; PIDN:AAB22252.1; PID:g249857
Experimental source: embryo
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Pred. No. 0.0013;
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Pred. No. 0.0018;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Molecule type: protein
Residues: 27-33 <CLA>
Sugihara, T.; Kaul, S.C.; Mitsui, Y.; Wadhwa, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .2; Mismatches
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68.48;
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llarity 68.4%;
Conservative
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Best Local Similarity 68.47
Matches 13; Conservative
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A; Residues: 27-46 <SUG>
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nes 13; Conserv
                                                                                                                                               A; Residues: 1-214 <BRE>
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Matches
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                                                              R;Conn, G.; Bayne, M.L.; Soderman, D.D.; Kwok, P.W.; Sullivan, K.A.; Palisi, T.M.; Hope, Proc. Natl. Acad. Sci. U.S.A. 87, 2628-2632, 1990
A;Yittle: Amino acid and cDNA sequences of a vascular endothelial cell mitogen that is hd A;Reference number: A35987; MUID:90207249; PMID:2320579
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A;Residues: 27-38 <ROS>
C;Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; glycoprotein; mit
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Reference number: A43351; MUID:92355593; PMID:1644816
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Development 114, 521-532, 1992
A.71tle: Expression of vascular endothelial growth factor during embryonic anglogenesis
A.Reference number: A44881; WUID:92274860; PMID:1592003
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C:Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 05-Nov-1999
C:Accession: B44881; A43351; A61029
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C;Date: 03-Feb-1994 #sequence_revision:03-Feb-1994 #text_change 08-Oct-1999
C;Accession: A44881; C44881; A60932; S52136
R;Breier, G.; Albrecht, U.; Sterrer, S;; Risau, W.
                            Date: 16-Nov-1990 #sequence_revision 16-Nov-1990 #text_change 05-Nov-1999
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Cross-references: GB:M95200; NID:9202350; PIDN:AAA40547.1; PID:9202351
Note: sequence extracted from NCBI backbone (NCBIN:110665, NCBIP:110675)
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Pred. No. 0.0011;
2; Mismatches 4; Indels
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Biol. Chem. 267, 16317-16322, 1992
                                                                                                                                                                                                                                                                                                                                                                                    Score 72; DB 2
Pred. No. 0.000
1; Mismatches
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Rattus norvegicus (Norway rat)
                                                                                                                                                                                                                                                                                                                                                                                       ch 65.5%; Score I Similarity 73.7%; Pred. 14; Conservative 1; Mis
                                                                                                                                                                                                                                                                                                                                                                                                                                               1;
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sl Similarity 68.4%;
13; Conservative
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Residues: 1-190 <BRE>
                                                                                                                                                                                                                                                                A; Molecule type: mRNA
A; Residues: 1-190 <CON>
                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity
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                                                           Accession: A35987
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Mucopolysaccharidosis type VII: characterization of mutations and molecular
                                                                                                                                                                                   465 EIVKFEEVLRKEELTP 480
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   . Natl. Acad. Sci. U.S.A. 84, tle: Cloning, sequencing, and
                                                                                                                                   3 EVVKFEDVLRRSSCHP 18
                             Query Match
Best Local Similarity 56.2%;
Matches 9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 35.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Experimental source: placenta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
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Best Local Similarity
Matches 6; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SPDB:SPCC5E4.06
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Gene:
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R;Connolly, D.T.; Heuvelman, D.M.; Nelson, R.; Olander, J.V.; Eppley, B.L.; Delfino, J.J. J. Clin. Invest: 84, 1470-1478, 1989
A;Title: Tumor vascular permeability factor stimulates endothelial cell growth and angid A;Reference number: A60706; MUID:90037570; PMID:2478587
A;Accession: A60706
                                                                                                                                                                              R;Senger, D.R.; Connolly, D.T.; Van De Water, L.; Feder, J.; Dvorak, H.F.
Cancer Res. 50, 1774-1778, 1990
A;Title: Purification and NH-2-terminal amino acid sequence of guinea pig tumor-secreted A;Reference number: A60544; MUID:90167668; PMID:2155059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 K;DiSalvo, J.; Bayne, M.L.; Conn, G.; Kwok, P.W.; Trivedi, P.G.; Soderman, D.D.; Palisi, J. Biol. Chem. 270, 7717-7723, 1995
A;Title: Purification and characterization of a naturally occurring vascular endothelial A;Reference number: A56125; MUID:95221439; PMID:7706320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R;Deckert, G.; Warren, P.V.; Gaasterland, T.; Young, W.G.; Lenox, A.L.; Graham, D.E.; Ov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: GB:AE000772; NID:92984299; PIDN:AAC07826.1; PID:92984303; GB:AE00065
A;Experimental source: strain VF5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A,Gene: carB2
C,Superfamily: carbamoyl-phosphate synthase large chain; biotin carboxylase homology
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                                                                                                                                                                                                                                                                                                 A; Molecule type: protein
A; Residues: 1-24 <SEN>
C; Comment: This protein promotes both vascular permeability and angiogenesis.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Species: Rattus norvegicus (Norway rat)
Date: 19-Oct-1995 #sequence_revision 19-Oct-1995 #text_change 05-Nov-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Species: Aquifex aeolicus
Date: 08-May-1998 #sequence_revision 08-May-1998 #text_change 22-Jun-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Cross-references: GB:L40030; NID:g1263413; PIDN:AAA97426.1; PID:g1263414 C;Reywords: glycoprotein
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                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 36;
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2.6;
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0.002;
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Pred. No.
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EVVPFNEVWGRSYCRPME 52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EVVKFEDVLRRSSCHPIE 20
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72.28;
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                                                                                                                           Molecule type: protein
Residues: 1-36 <CON>
Senger, D.R.; Connolly,
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Matches 10; Conserv
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Best Local Similarity
Matches 13; Conserv
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C.Accession: A26581, A40337; A24983, A36538
R;Oshima, A.; Kyle, J.W.; Miller, R.D.; Hoffmann, J.W.; Powell, P.P.; Grubb, J.H.; S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;Molecule type: DNA
;Residues: 1-70 <SHI>
;Cross-references: GB:M65002; NID:g183706; PIDN:AAA52622.1; PID:g183707
;Guise, K.S.; Korneluk, R.G.; Waye, J.; Lamhonwah, A.M.; Quan, F.; Palmer, R.; Ganso
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A;Cross-references: EMBL:AL033406; PIDN:CAA21961.1; GSPDB:GN00068; SPDB:SPCC5E4.06
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Reference number: A40337; MUID:92009900; PMID:1916806
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C; Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 03-Dec-1999
C; Accession: T41457
R; Wood, V.; Rajandram, M.A.; Barrell, B.G.; Rieger, M.
A; Reference number: 21995
A; Reference number: 21995
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Date: 05-Oct-1988 #sequence_revision 05-Oct-1988 #text_change 22-Jun-1999
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Cross-references: GB:M15182; NID:9183232; PIDN:AAA52561.1; PID:9183233
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                                                                                                                          Length 557;
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F;9-468/Domain: biotin carboxylase homology <BCH>
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Pred. No.
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40.9%; Score 45; DB 2; Length 450; 77.8%; Pred. No. 30; ive 2; Mismatches 0; Indels
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                                         Query Match
Best Local Similarity 77.8
Matches 7; Conservative
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218 HHELVKFQD 226
                                                                                                                                                                  1. HHEVVKFED
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Job time: 17.2941 secs
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C.Species: Methanobacterium thermoautotrophicum
C.Date: 05-Dec-1997 #sequence_revision 05-Dec-1997 #text_change 22-Oct-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R.Smith, D.R.; Doucette-Stamm, L.A.; Deloughery, C.; Lee, H.; Dubois, J.; Aldredge, T.; Qlu, D.; Spadafora, R.; Vicaire, R.; Wang, Y.; Wierzbowski, J.; Gibson, R.; Jiwani, N. ki, S.; Church, G.M.; Daniels, C.J.; Mao, J.; Rice, P.; Noelling, J.; Reeve, J.N. J. Bacteriol. 179, 7135-7155, 1997
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Li, Y.; Palm, C.J.; Shinn, P.; Sun, H.; Davis, R.W.; Ecker, J.R.; Federspiel, N.A.; Theo
submitted to the EMBL Data Library, July 1998
A; Description: Arabidopsis thaliana chromosome 1 BAC 78F5 complete sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   :Cross-references: GB:AE000880; GB:AE000666; NID:92622192; PIDN:AAB85585.1; PID:9262219
:Experimental source: strain Delta H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Title: Complete genome sequence of Methanobacterium thermoautotrophicum Delta H: func
A; Reference number: A69000; MUID: 98037514; PMID: 9371463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Residues: 1-450 <VYS>
A;Cross-references: EMBL:AC004512; NID:g3335331; PID:g3335350; GSPDB:GN00059; ATSP:T8F5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                : preliminary; nucleic acid sequence not shown; translation not shown
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C;Species: Arabidopsis thaliana (mouse ear cress)
C;Date: 05-Mar-1999 #sequence_revision 05-Mar-1999 #text_change 22-Oct-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                 C; Reywords: glycoprotein; glycosidase; homotetramer; hydrolase; lysosome F;1-22/Domain: signal sequence #status predicted <SIG>F;23-651/Product: beta-glucuronidase, placental #status predicted <MAT>
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A; Reference number: A36538; MUID:91090114; PMID:1702266
A; Accession: A36538
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44.4%; Pred. No. 21;
ilve 3; Mismatches
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Best Local Similarity 66.7%; Pred No. 9.8; Matches 8; Conservative 1; Mismatches
                                                                                                                                                                                        GDB:120025; OMIM:253220
                                                                      A; Molecule type: mRNA
A; Residues: 378-385,616-621,643-651 <TOM>
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C,Superfamily: beta-glucuronidase
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Best Local Similarity 44.4%;
Matches 8; Conservative
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A;Cross-references:
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## GenCore version 5.1.6 Copyright (c) 1993 - 2003 Compugen Ltd.

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#### SUMMARIES

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#### ALIGNMENTS

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	8	ia; Primates; Catarrhini; Hominidae;
	, S	NCBI_TaxID=9606;
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	RP	SEQUENCE FROM N.A. (ISOFORMS VEGF189 AND VEGF165).
	RX	59608; PubMed=2479986;
	·RA	., Cachianes G., Kuang WJ., Goeddel D.N
	RT.	"Vascular endothelial growth factor is a secreted angiogenic
	RI	
	곱 :	Science 246:1306-1309(1989).
	Z.	
	КР	
	KX	069609; PubMed=2479987;
	RA	Keck P.J., Hauser S.D., Krivi G., Sanzo K., Warren T., Feder J.,
	RA	
	RT	"Vascular permeability factor, an endothelial cell mitogen related to
	RT	
	RL	Science 246:1309-1312(1989).
	RN	[3]
	RP	SEQUENCE FROM N.A. (ISOFORM VEGF189).
	RX	Δ
	RA	Tischer E., Mitchell R., Hartman T., Silva M., Gospodarowicz D.,
	RA	J.C., Abraham J.A.;
	RT.	"The human gene for vascular endothelial growth factor. Multiple
	RT	e encoded through alternative exon splic
	RL	266:11947-11954(1991).
	RN	[4]
	RP	SEQUENCE FROM N.A. (ISOFORM VEGF206).
1	ΚX	PubMed=1791831;
	æ	errara N., Winer J., Cachianes G.,
	RT	dothelial growth factor family: identificatio
	RT	irth
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	R	Mol, Endocrinol. 5:1806-1814(1991).
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	ξ.	D., Weich H.A.;
	T L	ALID-associated rapios: salcoma cells in culture express vascular endethelis! arouth factor ".
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	₩.	MEDLINE=97207275; PubMed=9054410;

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"Heterogeneous vascular endothelial growth factor (VEGF) isoform mRNA and receptor mRNA expression in human glomeruli, and the identification of VEGF148 mRNA, a novel truncated splice variant.";
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Abrams K.R., Lee S.W., Detmar M.;
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hypoxia induced mRNs stablity.";
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                                                        binds to extracellular matrix.";
J. Biol. Chem. 272:7151-7158(1997).
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MEDLINE=99394945; PubMed=10464055;
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                                                                                                                                                                                                                                                                                                       MEDLINE-98119755; PubMed-9450968;
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14, 13C, and 15N backbone assignment and secondary structure of
receptor-binding domain of vascular endothelial growth factor.";
Protein Sci. 6:2250-2260(1997)
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MEDLINE-98298440; PubMed-9634701;
Fairbrother W.J., Champe M.A., Christinger H.W., Keyt B.A.,
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Fairbrother W.J., Champe M.A., Christinger H.W., Keyt B.A.,
                                                                                                                                                                                                            X-RAY CRYSTALLOGRAPHY (1.93 ANGSTROMS) OF 34-135.
                                                                                                                                                                                                                                                                                                                                                       X-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS) OF 39-134.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                iochemistry 37:17765-17772(1998).
                                   Eur. J. Biochem. 211:19-26(1993).
                                                                                                                                                                                                                             MEDLINE=98035455; PubMed=9351807,
                                                                                                                                                                                                                                                                                                                    Structure 5:1325-1338(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRUCTURE BY NMR OF 34-135.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ALTERNATIVE PRODUCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Starovasnik M.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Name=VEGF206;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Name=VEGF189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         isoforms
                                                                                                                         de Vos A.M.;
                                                                                                                                                                                                                                                                                                     binding.
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IsoId=P15692-2; Sequence=VSP\_004622;

22276 MW; F00C5A8EA79A465F CRC64;

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190 AA;
                                                                                                                                                                                                                                                  01-APR-1990 (
01-APR-1990 (
28-FEB-2003 (
                                                                                                                                                                                                                 VEGA_BOVIN
P15691;
   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Biochem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mitogen.
                                                                                                                                                                                                     VEGA_BOVIN
                                                                   Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the SWISS Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement. (See http://www.isb-sib.ch/announce/or send an email to license@isb.ch/.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   I Tissue Res. 296:339-349(1999).
FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFRI/Fit-1 and VEGFR2/Rdr receptors and to heparan sulfate and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUBCELLULAR LOCATION: Secreted but remains associated to cells or
                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
with PIGF (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       similarity). SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VASCULAR ENDOTHELIAL GROWTH FACTOR A. BY SIMILARITY.
                                                                                                                                                                                                                      28-FEB-2003 (Rel. 41, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
vaccular endothelial growth factor A precursor (VEGF-A) (Vascular VEGF OR VEGFA)
                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Y1 X.J., Jiang H.Y., Lee K.K., Tang P.L., Chow P.H.;
"Expression of vascular endothelial growth factor (VEGF) and its
receptors during embryonic implantation in the golden hamster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-LINKED (GLCNAC. . .) (POTENTIAL).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      to the extracellular matrix unless released by heparin (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
Mitogen; Anglogenesis; Growth factor; Glycoprotein; Signal;
                    Length 232;
                                                   3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
                 Score 88; DB 1; I
Pred. No. 6.8e-07;
; Mismatches 3;
                                                                                                                                                                                                     190 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Interpro; IPR000072; PD_growth_factor. Pfam; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PD001629; PD_growth_factor; 1.
                                                                                                                                                                                                                                                                                                                                    Mesocricetus auratus (Golden hamster).
                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISSUE-Decidua, and Embryo;
MEDLINE-99311285; Pubmed-10382276;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Heparin-binding, Multigene family.
                                                                                                     37 HHEVVKFMDVYQRSYCHPIE 56
                                                                                  1 HHEVVKFEDVLRRSSCHPIE 20
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                  80.0%;
80.0%;
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                                                   Conservative
                                                                                                                                                                                                STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (Mesocricetus auratus).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SMART; SM00141; PDGF;
                             Local Similarity
es 16; Conserve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1VGH
                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=10036;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HSSP; P15692;
                                                                                                                                                                                                                                                                                                                                                                                     Mesocricetus
                                                                                                                                                                                                  VEGA_MESAU
Q99PS1;
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                  Query Match
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                                                                                                                                                                                    VEGA_MESAU
                                                   Matches
                                                                                                                                                                     RESULT 2
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This SWISS-PROT entry is copyright. It is produced through a collaboration
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-1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell provides complexes and proliferation, promotes call migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the vegGFRI/Flt-1 and VEGFRZ/Kdr receptors and to heparan sulfate and
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                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homodimer; disulfide-linked. Also found as heterodimer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ferrara N., Henzel W.J.; "Pituitary follicular cells secrete a novel heparin-binding growth factor specific for vascular endothelial cells.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE OF 27-190-FROM N.A. (ISOFORMS ALPHA AND BETA).
MEDLINE=90121225; PubMed=2610687;
Tischer E., Gospodarowicz D., Mitchell R., Silva M., Schilling J.,
Lau K., Crisp T., Fiddes J.C., Abraham J.A.,
"Vascular endothelial growth factor: a new member of the platelet-derived growth factor gene family.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             isoid=p15691-2; Sequence=vSP_004613, vSP_004614;
-!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-APR-1990 (Rel. 14, Last sequence update)
8-PFBB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth; factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Goeddel D.V., Ferrara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Leung D.W., Cachianes G., Kuang W.-J., Goeddel D.V., Ferrara "Vascular endothelial growth factor is a secreted angiogenic
Length 190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Biophys. Res. Commun. 165:1198-1206(1989).
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                                  0.00014;
                                                                                                                                                                                                                                                                                                                                                                                                                190 AA
                                                                         1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A., AND SEQUENCE OF 27-47.
MEDLINE=90069608; PubMed=2479986;
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IsoId=P15691-1; Sequence=Displayed;
Query Match 66.4%; Score 73; Best Local Similarity 73.7%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE-89286596; Pubmed-2735925;
                                                                                                                                                                                          | ||:| || ||| |||||
37 HGVVEFMDVYRRSYCHPIE 55
                                                                                                                                                   2 HEVVKFEDVLRRSSCHPIE 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PIGF (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (Rel. 14, Created)
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SUBUNIT: Homodimer: dis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ALTERNATIVE PRODUCTS:
                                                                         14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bos taurus (Bovine).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE OF 27-31.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VEGF OR VEGFA.
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SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VEGF OR VEGFA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE-Heart;
                                                                         HSSP; P15692;
                                                                                                                                                                                                                                                            DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VEGA_PIG
P49151; Q
                                                                                                                                                                                                                                 DISULFID
                                                                                                                                                                                                                                                DISULFID
                                                                                                                                                                                                                                                                                        DISULFID
                                                                                                                                                                                                                                                                                                        CARBOHYD
                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                       SIGNAL
                                                                                                                                                                                                                     CHAIN
                                                                                                                                                                                                                                                                                                                                                                               Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PIGF (By similarity).
SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         endotherial growth factor (VEGF).";
Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: Growth factor active in angiogenesis, and endothelial cell growth. Induces endothelial proliferation and vascular permeability (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        similarity).
SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                               VASCULAR ENDOTHELIAL GROWTH FACTOR A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precursor (VEGF-A) (Vascular VEGF OR VECF.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Perissodactyla, Equidae, Equus
                                                                                                                                                                                                                                                                                     INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLONAC. .) (POTENTIAL).
Missing (in isoform Beta).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Miura N., Misuni K., Kawahara K., Nakashima M., Fukumitsu S., Kawabata H., Uto N., Oka T., Maruyama I., Sakamoto H.; "Cloning of cDNA and high-level expression of equine vascular
                                                                                                                                                      PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
Mitogen; Anglogenesis; Growth factor; Glycoprotein; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                       Length 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                   4; Indels
                                                                                                                                                                                                   Heparin-binding; Alternative splicing; Multigene family
                                                                                                                                                                                                                                                                                                                                                              R -> K (in isoform Beta). /Frid=VSP_004614.
                                                                                                                                                                                                                                                                                                                                                                                         EDBF903E46E24789 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                 Score 72; DB 1;
Pred. No. 0.0002;
                                                                                                                                                                                                                                                                                                                                                  /FTId=VSP_004613.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             190 AA
                                                                                                                                                                                                                                                BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                            SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  1; Mismatches
send an email to license@isb-sib.ch)
                                                                                             InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
ProDom; PD001629; PD_growth_factor; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last seq
                                                                                                                                                                                                                                                                                                                                                                                          190 AA; 22310 MW;
                          EMBL; M32976; AAA30502.1; -. EMBL; M31836; AAA30804.1; -. EMBL; M33750; AAA30805.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                       65.5%;
73.7%;
                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 65.37
Best Local Similarity 73.77
Matches 14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Equus caballus (Horse).
                                                                                                                                          SMART; SM00141; PDGF; 1
                                                                      PIR; B40080; B40080.
                                                                                  HSSP; P15692; 1VGH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                    85
100
139
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DISULFID
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CARBOHYD
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                                                                                                                                                                                                                   SIGNAL
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VEGA_HORSE
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entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (NOV-2000) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth; It induces endothelial cell growth; It induces endothelial cell promotes; cell indiration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                with PIGF (By similarity).
SUBCELLUIAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VEGFR1/Fit-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
Lee T., Canty J.M.;
PPCR cloning of porcine cardiac vascular endothelial growth factor gene.";
                                                                                                                                                                                                                                                                                                                                                                                                      VASCULAR ENDOTHELIAL GROWTH FACTOR A. BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P49151; Q9GL52;
01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Vascular endotheliar growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Euteleostomi;
Sus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N-LINKED (GLCNAC. .) (POTENTIAL)
87E9E161439E5F87 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sharma H.S., Tang Z.H., Gho B.C.H., Verdouw P.D.; "Nucleotide sequence and expression of the porcine vascular endothelial growth factor.";
                                                                                                                                                                                                                                                               PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
Mitogen; Anglogenesis; Growth, factor; Glycoprotein; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                INTERCHAIN (BY SIMILARITY). INTERCHAIN (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sus scrofa (Pig).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       65.5%; Score 72; DB 1; 73.7%; Pred. No. 0.0002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           190 AA
  modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Biochim. Biophys. Acta 1260:235-238(1995).
                                                                                                                                                                                                                                                                                                                                                                               POTENTIAL.
                                                                                                                                                    InterPro; IPR000072; PD_growth_factor: Pfam; PF00341; PDGF; 1. ProDom; PD001629; PD_growth_factor; 1. SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE-95143284; PubMed-7841203;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; AB053350; BAB20890.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22312 MW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
                                                                                                                                                                                                                                                                                                                                                                               26
190
93
127
                                                                                                                                 1VGH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                      Multigene family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=9823;
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between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profil institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                 SWISS-PROT entry is copyright. It is produced through a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Jingjing L., Roque R.S.;
Submitted (MAR-1999) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: Growth factor active in anglogenesis, vasculogenesis and
endothelial cell growth. It induces endothelial cell
proliferation, promotes cell migration, inhibits apoptosis, and
induces permeablization of blood vessels. It binds to the
VEGFRI/Fit-1 and VEGFR2/Kdr receptors and to heparan sulfate and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Vascular endothelial growth factor (VEGF) and its receptors in tumor-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE-20125516; PubMed=10661874;
Scheidegger P., Weiglhofer W., Suarez S., Kaser-Hotz B., Steiner R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VEGA_CANFA STANDARD;
PRT; 214 AA.
O9XFF3; O9XSF4; O9XSF5;
28-FBB-2003 (Rel. 41, Last sequence update)
28-FBB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Canis familiaris (Dog).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Carnivora, Fissipedia, Canidae, Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                              BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. ) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                              VASCULAR ENDOTHELIAL GROWTH FACTOR BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A. (ISOFORMS VEGF-188; VEGF-182 AND VEGF-164)
                                                                                                                                                                                                                                                                                         PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
Mitogen; Anglogenesis; Growth factor; Glycoprotein; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 72; DB 1; Length 190;
Pred. No. 0.0002;
1; Mismatches 4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -> A (IN REF. 2).
04D40B8D7913047F CRC64;
                                                                                                                     send an email to license@isb-sib.ch)
                                                                                                                                                                                                                                                                                                                                     Heparin-binding; Multigene family.
                                                                                                                                                                   EMBL, AF318502, AAG33064.1; -.
PIR: SS2130, SS2130.
HSSP: P15692; 1VGH.
InterPro; IPR000072; PD_growth_factor.
Pfam: PF00341; PDGF; 1.
ProDom; PD001629; PD_growth_factor.
SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. (ISOFORM VEGF-188).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3iol. Chem. 380:1449-1454(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 HEVVKFEDVLRRSSCHPIE 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             22368 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        65.58;
                                                                                                                                                       EMBL; X81380; CAA57143.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ballmer-Hofer K., Jaussi R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity 73.7
Matches 14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                102
190 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID-9615;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              bearing dogs.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VEGF OR VEGFA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISSUE-Heart;
                                                                                                                                                                                                                                                                                                                                                                                              DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                  DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                    DISULFID
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VEGA_CANFA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                            Homodimer; disulfide-linked. Also found as heterodimer
                                                     with PIGF (By similarity).
SUBCELLULAR LOCATION: Secreted but remains associated to cells to the extracellular matrix unless released by heparin (By
                                                                                                                                                                                                                                                                                                                                                                                                                    ISOId=Q9MYV3-3; Sequence=VSP_004615, VSP_004616; SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VASCULAR ENDOTHELIAL GROWTH FACTOR A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. .) (POTENTIAL).
K -> N (in isoform VEGF-164).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Anglogenesis; Growth factor; Glycoprotein; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Missing (in isoform VEGF-164) /FTId=VSP_004616.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Missing (in isoform VEGF-182) /FTId=VSP_004617.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 214;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Heparin-binding, Alternative splicing, Multigene family
SIGNAL 1 26 POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0AC980A158C44B27 CRC64;
                                                                                                                                                                                                             Event=Alternative splicing; Named isoforms=3;
Comment=Additional isoforms seem to exist;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -> V (IN REF. 2).
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Pred. No. 0.00023;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VEGA.RAT STANDARD, P16612; 09JKX7; 090XG6; 090XG7; 01-AUG-1990 (Rel. 15, Created) 28-FEB-2003 (Rel. 41, Last annotation update) 28-FEB-2003 (Rel. 41, Last annotation update) 28-FEB-2003 (Rel. 41, Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                                              IsoId=09MYV3-2; Sequence=VSP_004617;
                                                                                                                                                                                                                                                                                                     IsoId=Q9MYV3-1; Sequence=Displayed;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR000072; PD_growth_factor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ProDom; PD001629; PD_growth_factor; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 HEVVKFEDVLRRSSCHPIE 20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; AJ133758; CAB82426.1; -- .
EMBL; AF133250; AAD29684.1; -- .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     73.78;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         25175 MW;
heparin (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 73.79
Matches 14: Conservative
                                                                                                                                                                                ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROSITE; PS00249; PDGF_1;
PROSITE; PS50278; PDGF_2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SM00141; PDGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pfam; PF00341; PDGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             214 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HSSP; P15692; IVGH
                                                                                                                                                                                                                                                                         Name=VEGF-188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 143
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                                                                                                                                                       similarity)
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/EGF-A120).

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EMBL; AF215726; AAF19212.1;
EMBL; AF222779; AAF25958.1;
                                                                                                                                Pfam; PF00341; PDGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    101
214 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VEGA_MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
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      1111111
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce.or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE-Gilal tumor;

MEDLINE-95221439; PubMed-7706320;

DiSalvo J., Bayne M.L., Conn G., Kwok P.W., Trivedi P.G.,

DiSalvo J., Dayne M.L., Conn G., Twok P.W., Trivedi P.G.,

Soderman D.D., Palisi T.M., Sullivan K.A., Thomas K.A.;

"Purification and characterization of a naturally occurring vascular endothelal growth factor placenta growth factor heterodimer.";

J. Biol. Chem. 270:7717-773(1995).

-!- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell growth. It induces cell midgration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IsoId=Pl6612-4; Sequence-vSP_004631;
TSSUE SPECIFICITY: Expressed in the pituitary, in brain, in particularly in supraoptic and paraventricular nuclei and the choroid plexus. Also found abundantly in the corpus luteum of the
                                                                                                                                                                                                               SEQUENCE FROM N.A. (ISOFORM VEGF-A164), AND SEQUENCE OF 27-190. MEDLINE=90207249; PubMed=2320579; Conn G., Bayne M.L., Soderman D.D., Kwok P.W., Sullivan K.A., Palisi T.M., Hope D.A., Thomas K.A.; Amino acid and cDNA sequences of a vascular endothelial cell mitogen that is homologous to platelet-derived growth factor."; Proc. Natl. Acad. Sci. U.S.A. 87:2628-2633(1990).
                                                           Rattus norvegicus (Rat).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       with PIGF (By similarity).
SUBCELLULAR LOCATION: VEGF-A120 is acidic and freely secreted.
SUBCELLULAR LOCATION: VEGF-A120 is acidic and freely secreted.
VEGF-A164 is more basic, has heparin-binding properties and, although a signicant proportion remains cell-associated, most is freely secreted. VEGF-A188 is very basic; it is cell-associated after secretion and is bound avidly by heparin and the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VEGFRI/Fit-1 and VEGFRZ/Kdr receptors and to heparan sulfate and heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ishii H., Arakawa T., Okayama M., Oota'I., Takuma T., Inomata K.; "Developmental expression of vascular endothelial growth factor-A (VEGF-A) splicing variants, VEGF-A188, VEGF-A164, and VEGF-A120 in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      extracellular matrix, although it may be released as a soluble form by heparin, heparinase or plasmin (By similarity). ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ovary and in kidney glomeruli. SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A. (ISOFORMS VEGF-A188); VEGF-A164; VEGF-A144 AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IsoId=P16612-2; Sequence=VSP_004629, VSP_004630;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Event=Alternative splicing; Named isoforms=4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Comment-Additional isoforms seem to exist;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IsoId=P16612-3; Sequence=VSP_004632;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IsoId=P16612-1; Sequence=Displayed;
permeability factor) (VPF).
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                                                                                                                                                          NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           masseter muscle.
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EMBL; M32167; AAA41211.1; -. EMBL; AF215725; AAF19211.1;

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Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A. (ISOFORMS VEGF-1; VEGF-2 AND VEGF-3).
MEDLINE-92274860; Pubmed-1592003;
MEDLINE-92274860; Pubmed-1592003;
Braier G., Albrecht U., Sterrer S., Risau W.;
Expression of vascular endothelial growth factor during embryonic angiogenesis and endothelial cell differentiation.";
Development 114:521-532(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-APR-1993 (Rel. 25, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
                                                                                                                                                                                                                                          VASCULAR ENDOTHELIAL GROWTH FACTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                            BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N;LINKED (GLCNAC...).
K'-> N (in isoform VEGF-A164).
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Missing (in isoform VEGF-A164) /FTId=VSP_004630.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Missing (În isoform VEGF-A144)
/FTIG-VSP_004632.
V. -> A (IN REF. 2; AAF19212).
60FBB876F304946 CRC64;
                                                                                                                   PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
Mitogen; Anglogenesis; Growth factor; Glycoprotein; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Missing (in isoform VEGF-A120) /FIId=VSP_004631.
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Wascular endothelial growth factor. Regulation by cell
differentiation and activated second messenger pathways.";
J. Biol. Chem. 267:16317-16322(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 214;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4; Indels
                                                                                                                                                                                            Heparin-binding; Alternative splicing; Multigene family
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 72; DB 1; I
Pred. No. 0.00023;
1; Mismatches 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                /FTId=VSP_004629.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  214 AA.
HSSP; P15692; 1VPP.
InterPro; IPR000072; PD_growth_factor.
                                                                  ProDom; PD001629; PD_growth_factor; 1.
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25239 MW;
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Best Local Similarity 73.79
Matches 14; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     208
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68.48;

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                               J. Biol. Chem. 271:8877-3883(1996).

-!- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell prowth. It induces endothelial cell prowth. Promises cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFRI/FIt-1 and VEGFRZ/Kdr receptors and to heparan sulfate and
                                                                                                                                                                                                                                                               Isoid-000731-1; Sequence-Displayed;
Name-VEGF-1; Synonyms-VEGF164;
Isoid-000731-2; Sequence-VSP_004626; VSP_004627;
Name-VEGF-2; Synonyms-VEGF120;
Isoid-000731-3; Sequence-VSP_004628;
TISSUE SPECIFICITY: In developing embryos, expressed mainly in the
                                                                                                                                 heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PIGF (By similarity).
SUBCELLULAR LOCATION: VEGF-1 and VEGF-2 are secreted while VEGF-3 remains cell-surface associated unless released by heparin.
ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                                                                                                  choroid plexus, paraventricular neuroepithellum, placenta and kidney glomeruli. Also found in bronchial epithellum, adrenal gland and in seminiferous tubules of testis. High expression of VEGF continues in kidney glomeruli and choroid plexus in adults. DOMAIN: VEGF-3 contains a basic insert which acts as a cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Heparin-binding; Alternative splicing; Multigene family.
SIGNAL
1 26 BY SIMILARITY
SIGNAL 27 214 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
DISULFID 51 93 BY SIMILARITY.
DISULFID 82 127 BY SIMILARITY.
DISULFID 86 129 BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     retention signal.
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INTERCHAIN (BY SIMILARITY).
IN-LINKED (GLCNAC...) (PROBABLE).
K -> N (in isoform VEGF-1).
/FIId-VSP_004626
   and post-transcriptional
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PS00249; PDGF_1; 1.
PS50278; PDGF_2; 1.
Anglogenesis; Growth factor; Glycoprotein; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 1; Length 214;
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/FTId=VSP_004628.
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/FIId=VSP_004627.
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                                                                                                                                                                                                                                  Event-Alternative splicing; Named isoforms=3;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MGD; MGI:103178; Vegfa.
InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ProDom; PD001629; PD_growth_factor; 1.
characterization of transcriptional
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -; NOT_ANNOTATED_CDS
                                                                                                                                                                                                                                                     Name=VEGF-3; Synonyms=VEGF188;
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25283 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         93
127
129
76
85
100
                    regulatory sequences. J. Biol. Chem. 271:38
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214 AA;
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HSSP; P1569
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VARSPLIC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FMBL;
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               ö
                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  heparin (By similarity).
SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
with PIGF (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VASCULAR ENDOTHELIAL GROWTH FACTOR A.
                                                                                                                                                                                                                                    VEGF OR VEGFA.
Ovis aries (Sheep).
Eukaryota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea.
                                                                                                                                                                             01-OCT-1996 (Rel. 34, Last sequence update)
28.FEB-2003 (Rel. 41, Last annotation update)
Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VFF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (POTENTIAL)
               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SMART: SM00141; PDGF; 1.
PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal; Heparin-binding; Multigene family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. .) (POT
4E792CB557F91760 CRC64;
               Indels
 Pred. No. 0.00033; 2; Mismatches 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 69; DB 1; Pred. No. 0.00046;
                                                                                                                                       146 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ProDom; PD001629; PD_growth_factor; 1
                                                                                                                                                                                                                                                                                                                                                                MEDLINE=97117958; PubMed=8958842;
                                           2 HEVVKFEDVLRRSSCHPIE 20
                                                                   37 HEVIKEMDVYQRSYCRPIE 55
                                                                                                                                                                01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last seq.
28-FEB-2003 (Rel. 41, Last anno
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17247 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              62.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; X89506; CAA61677.1; F. PIR; S57956; S57956. HSSP; P15692; 1VPP.
Best Local Similarity 68.49
Matches 13; Conservative
                                                                                                                                                                                                                                                                                            Bovidae; Caprinae; Ovis.
NCBI_TaxID=9940;
                                                                                                                                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      146 AA;
                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                   TISSUE=Kidney
                                                                                                                                       VEGA_SHEEP
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                                                                                                                                                      P50412;
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                                                                                                                          VEGA_SHEEP
                                                                                                             RESULT 9
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Thu Jul 24 17:07:38 2003

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149' AA;
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Best Local Similarity
Matches 10; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HSSP; P49763; 1FZV
                                                                                                                                                              NCBI_TaxID=9913;
                                                                                                                                                                                                                 TISSUE-Heart:
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DISULFID
DISULFID
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@lb.sib.ch).
   ö
 .Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SUBCELLULAR LOCATION: Secreted but remains associated to cells or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                               01.AUG-1992 (Rel. 23, Created)
01.AUG-1992 (Rel. 23, Last sequence update)
81.AUG-1992 (Rel. 24), Last annotation update)
Vascular endothelial growth factor A (VEGF-A) (Vascular permeability
                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (JAN-1992) to the EMBL/GenBank/DDBJ databases.
--- FUNCTION: Growth factor active in angiogenesis, and endothelial cell growth. Induces endothelial proliferation and vascular permeability (By similarity).
--- SUBGNIT: Homodimer; disulfide-linked. Also found as heterodimer with PIGF (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            similarity).
SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                         Cavia porcellus (Guinea pig).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         to the extracellular matrix unless released by heparin (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 59; DB 1; Length 164; Pred. No. 0.021;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POT)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEB86A81A9D5DCA4 CRC64;
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                                                                                                                                                   164 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BY SIMILARITY.
BY SIMILARITY.
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Mismatches
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. PD001629; PD_growth_factor; 1.
SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro; IPR000072; PD_growth_factor. Pfam; PF00341; PDGF; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROSITE: PS50249; PDGE_1; 1.
PROSITE; PS50278; PDGF_2; 1.
Mitogen: Anglogenesis; Growth factor;
                                                                                                                                                 PRT;
                                                    111:11 || :|| | || :|| 37 HEVMKFMDVYQRSFCRPIE 55
                                2 HEVVKFEDVLRRSSCHPIE 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ||| || :|| |||| EEVKFMDVYKRSYCRPIE 29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3 EVVKFEDVLRRSSCHPIE 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   19330 MW;
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66.7%;
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13; Conservative
                                                                                                                                                 STANDARD:
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Matches 12; Conserv
                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=10141;
                                                                                                                                                                                                                                                                                                                                                                              TISSUE-Bile duct;
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PLGF_BOVIN
TD PLGF_BOVIN
                                                                                                                                                                                                                                                factor) (VPF)
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                                                                                                                                               VEGA_CAVPO
P26617;
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                                                                                                                              VEGA_CAVPO
Matches
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149 AA.

PRT;

STANDARD;

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         between the Swiss Institute of Bioinformatics and the EMBL outstative the European Bioinformatics Institute. There are no restrictions on use by non-profit institutions as long as its content is in no
                                                                                                                                                                                                                                                                                                                                                                                                                                    Liu X., Yonekura H., Yamagishi S., Yamamoto Y., Yamamoto H.;
"Structure and expression of bovine VEGF:Family."
Structure and expression of bovine VEGF:Family."
Submitted (MAY.1997) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: Growth factor active in angiogenesis, and endothelial
cell growth, stimulating their proliferation and migration. It
binds to receptor VEGRP-1/FLTI (By similarity).
-!- SUBUNIT: Antiparallel homodimer; disulfide-linked. Also found as
heterodimer with VEGF/VEGF. (By similarity).
-!- SUBCELLULAR LOCATION: Secreted (By similarity).
-!- SIMILÂRITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                    Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovoidea,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VEGA_CHICK STANDARD; PRT; 216 AA. P52582; 091420; D-1-00-1996 (Rel. 34, Created) 15-JUL-1998 (Rel. 36, Last sequence update) 15-SBP-2003 (Rel. 42, Last annotation update) Vascular endothelial growth, factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INTERCHAIN (BY SIMILARITY).

THOERCHAIN (BY SIMILARITY).

N-LINKED (GLCNAC...) (POTENTIAL)

N-LINKED (GLCNAC...) (POTENTIAL)
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PROSITE; PS50278; PDGF_2; 1.
Anglogenesis; Mitogen; Growth factor; Glycoprotein; Signal.
SIGNAL 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     47.3%; Score 52; DB 1; Length 149; 55.6%; Pred. No. 0.25; vative '2; Mismatches 6; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1F8EE3BBC745EFE0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PLACENTA GROWTH FACTOR
28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                   Placenta growth factor precursor (PlGF).
PGF OR PLGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               entities requires a license agreement (Sor send an email to license@lisb-sib.ch)
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ProDom; PD001629; PD_growth_factor; 1.
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Gallus gallus (Chicken), and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; AB004272; BAA77684.1;
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                                                                                                                                                                                                                                                                     Bovidae; Bovinae; Bos
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SMART; SM00141; PDGF;
                                                                                                                                                                        Bos taurus (Bovine).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DT DT DT OS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@lsb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 i- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endochelial cell growth. It induces endochelial cell proliferation, promotes cell migration, inhibits applosis, and induces permeabilization of blood vessels. It binds to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE SPECIFICITY: Abundantly and equally expressed in heart and liver. In kidney glomeruli, brain and yolk sac, VEGF-166 is 5- to 10-times more abundant than VEGF-190.

DEVELOPMENTAL STACE: VEGF-166 is expressed early at day 1 and is upgraded during gastrulation. Expression of VEGF-190 is detectable
                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VEGFRI/Fit-1 and VEGFRI/Kdr receptors and to heparan sulfate and heparin (By similarity).
Suburr: Assulfide-linked. Also found as heterodimer with PIGF (By similarity).
ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                                                 Flamme I., von Reutern M., Drexler H.C., Syed-Ali S., Risau W.; Overexpression of vascular endothelial growth factor in the avian embryo induces hypervascularization, and increased vascular permeability without alterations of embryonic pattern formation.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            retention signal.
SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              only from day 2.
DOMAIN: VECF-190 contains a basic insert which acts as a cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SPECIES-C.c.japonica;
MEDLINE-55301109; PubMed=7781909;
Flamme I., Breier G., Risau W.;
"Vascular endothelial growth factor (VEGF) and VEGF receptor 2 (fik-1) are expressed during vasculogenesis and vascular
                                                                                                                                                                                                                                                 SEQUENCE FROM N.A. (ISOFORMS VEGF-190; VEGF-166 AND VEGF-146).
SPECIES-C.c.japonica; TISSUE-Embryo;
MEDLINE-96005007; PubMed-7556923;
                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE OF 60-187 FROM N.A. (ISOFORMS VEGF-190 AND VEGF-166)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IsoId=P52582-2; Sequence=VSP_004633, VSP_004634;
Note=Has been shown to exist only in quail so far;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Note-Has been shown to exist only in quail so far;
                                                                                                                                                                                                            Submitted (FEB-1998) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IsoId=P52582-3; Sequence=VSP_004635, VSP_004636;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Event-Alternative splicing; Named isoforms=3;
Comment-Additional isoforms seem to exist;
                                                                                                                                                                                      embryonic ventricular myocytes VEGF."
quail)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IsoId=P52582-1; Sequence=Displayed;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR000072; PD_growth_factor.
Pfam; PF00341; PGGF; 1.
ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          differentiation in the quail embryol Dev. Biol. 169:699-712(1995).
  Coturnix coturnix japonica (Japanese
                                                                                                                                              SPECIES-Chicken; TISSUE-Heart;
                                                                                                                                                                                                                                                                                                                                                                                                     Dev. Biol. 171:399-414(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; AB011078; BAA24925.1; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; S79680; AAB35371.1;
HSSP; P15692; 1VGH.
                                                                                 NCBI_TaxID=9031, 93934;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Name=VEGF-146;
                                                                                                                           SEQUENCE FROM N.A
                                                                                                                                                                  rakahashi T.;
                                                                                                                                                                                          Chick
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SUBCELLULAR LOCATION: Secreted (By similarity). SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ., Tucci M., Russo G., Maglione D., Lago C.T., Romano A., della Valle G., de Gregorio L., Dragani T.A., G., Persico M.G.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
                                                                         ď
                                                                                                                                      K -> N (in isoform VEGF-166).
/FTId=VSP_004633.
Missing (in isoform VEGF-166).
/FTId=VSP_004634.
                                                                        VASCULAR ENDOTHELIAL GROWTH FACTOR
                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                              Missing (in isoform VEGF-146)
                                                                                                                                                                                                      F -> L (in isoform VEGF-146). /FIId=VSP_004635.
                                                                                                                                                                                                                                                                                                 Indels .
                                                                                                                                                                                                                                                                          Length 216;
PS00249; PDGF_1; 1.*
PS50278; PDGF_2; 1.,
Angiogenesis; Growth factor; Glycoprotein; Sign Angiogenesis; Growth factor; Multigene family.*
Angiogenesis; Stowth factor; Glycoprotein; Sign Angiogenesis; Spanically.

BY SIMILARITY.
                                                                                   BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY:
INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
                                                                                                                                                                                                                                         TIG=VSP_004636.
82E669C2F6FC6DA7 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       heterodimer with VEGF/VEGF-A (By similarity)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "The placenta growth factor gene of the mouse.";
Mamm. Genome 7:6-12(1996).
                                                                                                                                                                                                                                                                             DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                             01-0CT-1996 (Rel. 34, Created)
01-0CT-1996 (Rel. 34, Last sequence update)
28-FBS-2003 (Rel. 41, Last annotation update)
PGF OR PLGF.
                                                                                                                                                                                                                                                                                      0.77;
                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                             Score' 50;
                                                                                                                                                                                                                                                                                        Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=97059399; PubMed=8903720;
                                                                                                                                                                                                                                                                                                                                       38 NEVIKELEVXERSFCRTIE 56
                                                                                                                                                                                                                                                                                                                          2 HEVVKFEDVLRRSSCHPIE 20
                                                                                                                                                                                                                                                                       45.58;
                                                                                                                                                                                                                                                    216 AA; 25203 MW;
                                                                                                                                                                                                                                                                                      52.68;
                                                                                                                                                                                                                                                                                      Best Local Similarity 52.6
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                         STANDARD;
                                                                                                                                                                                                       166
                                                                                                                                                                                                                             210
                                                                                                                                                                                166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM 'N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN-NIH Swiss;
                                                Heparin-binding;
                                                                        27
52
83
87
77
77
86
                                                                                                                                                                                143
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                                                                                                                                                                                                                                                                                                                                                                                                           PLGF_MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Saccone S.
Viglietto
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                                                                                                          DISULFID
                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                           Query Match
                                        ditogen;
                                                                                   DISULFID
                                                                                               DISULFID
                                                                                                                                 DISULFID
                                                                                                                                             SARBOHYD
                                                                                                                                                        VARSPLIC
                                                                                                                                                                                VARSPLIC
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                                                                                                                                                                                                                              VARSPLIC
                                                              SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                             PLGF_MOUSE
                                                                                                                                                                                                                                                                                                                                                                                   RESULT 13
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                                                                                                                                                               SIGNAL
                                                                                                                                                                             CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAB1_AQUAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                     δ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
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 removed. Usage by and for commercial ent (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     heterodimer with VEGF/VEGF-A.
-!- SUBCELLULAR LOCATION: Secreted (By similarity).
-!- SINILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
                                                                                                                                                                                                                                                                                                             INTERCHAIN (BY SIMILARITY).
INTERCHAIN (BY SIMILARITY).
N-LINKED (GLCNAC...) (POTENTIAL).
N-LINKED (GLCNAC...) (POTENTIAL).
N-LINKED (GLCNAC...) (POTENTIAL).
                                                                                                                                                                                       PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PGF_2; 1.
Angiogenesis; Mitogen; Growth factor; Glycoprotein; Signal.
SIGNAL BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 1; Length 158;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              6; Indels
                                                                                                                                                                                                                                                                                                                                                                                                   F16128BEA0790438 CRC64;
                                                                                                                                                                                                                                                       PLACENTA GROWTH FACTOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Placenta growth factor precursor (PLGF)
                                                                                                                                                                                                                                                                                                                                                                                                                                               0.8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           158 AA
                                                                                                                                                                                                                                                                    BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.
modified and this statement is not removentities requires a license agreement (Gor send an email to license@lsb-sib.ch)
                                                                                                                                                                                                                                                                                                                                                                                                                                Score 49;
Pred. No.
                                                                                                                         Interpro; IPR000072; PD_growth_factor.
Pfam; PF00341; PDGF; 1.
                                                                                                                                                          ProDom; PD001629; PD_growth_factor; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       . PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3 EVVKFEDVLRRSSCHPIE 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               35 EVVPENEVWGRSYCRPME 52
                                                                                                                                                                                                                                                                                                                                                                                                 17876 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                              44.5%;
                                                              EMBL; X80171; CAA56453.1; -. EMBL; X96793; CAA65587.1; -. HSSP; P49763; 1FZV. MGD; MGI:105095; Pgf.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity 55.6
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rattus norvegicus (Rat).
                                                                                                                                                                          PDGF
                                                                                                                                                                                                                                                                                                                                                 29
30
97
158 AA;
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                                                                                                                                                                                                                                                                    DISULFID
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063434;
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                                                                                                                                                                                                                                                                                                     DISULFID
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                                                                                                                                                                                                                                                                                                                                    DISULFID
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                                                                                                                                                                                                                                                                                                                                                                                  CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                            SMART;
                                                                                                                                                                                                                                                       CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 14
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the large (or ammonia) chain to synthesize carbamoyl phosphate (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -!- COFACTOR: Binds 3 manganese ions per subunit (By similarity).
-!- PATHWAY: Arginine biosynthesis.
-!- PATHWAY: Pyrimindine biosynthesis; first step.
-!- PATHWAY: Composed of two chains: the small (or glutamine) chain promotes the hydrolysis of glutamine to ammonia, which is used by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nature 392:353-358(1998). -- CATALYTIC ACTIVITY: 2 ATP + L-glutamine + CO(2) + H(2)O - 2 ADP phosphate + L-glutamate + carbamoyl phosphate.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SIMILARITY: BELONGS TO THE CARB FAMILY. N-TERMINAL SECTION. CAUTION: Sequence of carB is split into two genes in A aeolicus (AQ_1172 and AQ_2101).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Deckert G., Warren P.V., Gaasterland T., Young W.G., Lenox A.L., Garbham D.E., Overbeek R., Snead M.A., Keller M., Aujay M., Huber Feldman R.A., Short J.M., Olson G.J., Swanson R.V.; Rott J.M., Olson G.J., Swanson R.V.; The complete genome of the hyperthermophilic bacterium Aquifex
                                                                                                                                                                                                                                                                                                                                                                                                                N-LINKED (GLCNAC. . . ) (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Carbamoyl-phosphate synthase large chain, N-terminal section
(EC 6.3.5.5) (Carbamoyl-phosphate synthetase ammonia chain).
CARBI OR AO_2101.
                                                                                                                                                                    PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1. '
Anglogenesis; Mitogen; Growth factor; Glycoprotein; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 1; Length 158;
0.8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bacteria; Aquificae; Aquificales; Aquificaceae; Aquifex.
                                                                                                                                                                                                                                                                                                                                                                 INTERCHAIN (BY SIMILARITY)
INTERCHAIN (BY SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B4771373A82E15B9 CRC64;
                                                                                                                                                                                                                                                                  PLACENTA GROWTH FACTOR.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                      N-LINKED (GLCNAC. .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          557 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     44.5%; Score 49; 55.6%; Pred. No.
EMBL; L40030; AAA97426.1; PIR; A56125; A56125. HSSP; P49763; IRZV: InterPro; IPR000072; PD_growth_factor.
                                                                                                                    ProDom; PD001629; PD_growth_factor; 1.
                                                                                                                                                                                                                                              OR 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE-98196666; PubMed-9537320;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EVVPFNEVWGRSYCRPME 52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3 EVVKFEDVLRRSSCHPIE 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28-FEB-2003 (Rel. 41, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        17681 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 55.6
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STANDARD;
                                                                                                                                                SMART; SM00141; PDGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      158 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=63363;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Aquifex aeolicus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    similarity).
                                                                                                                                                                                                                                                                       CAB1_AQUAE
067869;
                                                                                                                                                                                                                                                                                                                                                                                                                                      CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                        DISULFID
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CC or send an email to license@isb-sib.ch).

CR EMBL: AE000772; AAC07826.1; -
CR HSE; A70480; A70480.

CR HSSP; P00968; IJDB.

CR HAMAP; MF_01210; atypical; 1.

CR InterPro: IPR005483; CPase_L_D2.

CR InterPro: IPR005480; CPase_L_D2.

CR InterPro: IPR005480; CPase_L_D3.

CR RAM: PF00780; CPase_L_D3.

CR PROSITE; PS00866; CPase_L_D3.

CR PROSITE; PS00866; CPase_L_D3.

CR PROSITE; PS00866; CPase_L_D3.

CR PROSITE; PS00866; CPase_L_D3.

CRABOXYPHOSPHATE SYNTHETIC DOMAIN.

FT DOMAIN

THOURING DISSURPLIBED SANDERE IN SIMILARITY).

FT METAL 285 A85 MANGANESE I AND 2 (BY SIMILARITY).

FT METAL 285 A85 MANGANESE I AND 2 (BY SIMILARITY).

FT METAL 285 A85 MANGANESE I AND 2 (BY SIMILARITY).

FT METAL 301 301 MANGANESE I AND 2 (BY SIMILARITY).

SO SEQUENCE 557 A8; SCORE 49; DB 1; Length 557;

Best Local Similarity 56.2%; Pred. No. 3; Mismatches 4; Indels 0; Gaps 0;
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Search completed: July 24, 2003, 14:46:17 Job time : 16.2941 secs

3 EVVKFEDVLRRSSCHP 18 |:|||:|||:|| 465 EIVKFEEVLRKEELTP 480

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Copyright (c) 1993 - 2003 Compugen Ltd.	Scoring table: BLOSUM62 Gapop 10.0 , Gapext 0.5	Searched: 830525 seqs, 258052604 residues	Total number of hits satisfying chosen parameters: 830525	Minimum DB seq length: 0 Maximum DB seq length: 200000000		GenCore version 5.1.6 Copyright (c) 1993 - 2003 Compugen Ltrotein search, using sw model July 24, 2003, 14:14:50; Search time 35 (without alignous) 110 1 HEVWKFEDVLRRSSCHPIE 20 BLOSUM62 Gapop 10.0, Gapext 0.5 830525 seqs, 258052604 residues f hits satisfying chosen parameters: length: 200000000	Q
	July 24, 2003, 14:14:50; S  PEP2  SCOTE: 110 e: 1 HHEVVKFEDVLRRSSCHPIE 20	July 24, 2003, 14:14:50; S  score: 110 e: 1 HHEVVKFEDVLRRSSCHPIE 20 table: BLOSUM62 Gapop 10.0, Gapext 0.5	Score: 110 e: 1 HEVVKFEDVLRRSSCHPIE 20 table: Gapop 10.0, Gapext 0.5 d: 830525 seqs, 258052604 resi	July 24, 2003, 14:14:50; S score: 110 e: 11 HHEVVKFEDVLRRSSCHPIE 20 gapop 10.0, Gapext 0.5 d: 830525 seqs, 258052604 resi	Score: 110 e: 1 HBEVNFEDVLRRSSCHPIE 20 table: BLOSUM62 d: 830525 seqs, 258052604 resi umber of hits satisfying chosen paran DB seq length: 0 DB seq length: 0 DB seq length: 2000000000	OM protein - protein search, using sw model	
OM protein - protein search, using sw model	444	44 H	•	PEP2 110 1 HHEVVKFEDVLRRSSCHPIE 20 BLOSUM62 Gapop 10.0 , Gapext 0.5 830525 seqs, 258052604 residues f hits satisfying chosen parameters:	PEP2 110 1 HEVVKFEDVLRRSSCHPIE 20 BLOSUN62 Gapop 10.0 , Gapext 0.5 830525 seqs, 258052604 residues f hits satisfying chosen parameters: length: 000000000	July 24, 2003, 14:14:50; S	
			-	BLOSUM62 Gapop 10.0 , Gapext 0.5 830525 seqs, 258052604 residues f hits satisfying chosen parameters:	BLOSUM62 Gapop 10.0 , Gapext 0.5 830525 seqs, 258052604 residues f hits satisfying chosen parameters: length: 0 length: 2000000000	444	

sp\_invertebrate: \_organelle: bacteria:\* sp\_archeap: \* SPTREMBL 23:\* Database :

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

					•													
	Description		Q9bdp7 macaca mula	Q96kj0 homo sapien	Q96182 homo sapien	Q95ne5 macaca fasc	09qx39 spalax leuc	088911 rattus norv	Q8spz9 sus scrofa	Q8hy70 mustela vis	Q951q4 felis silve	Q91zel rattus norv	O70123 mus musculu	O9mzbl ovis aries	077643 ovis aries	Q8spl5 equus cabal	099k00 callithrix	OBlbu5 arabidopsis
COLUMNIA											•							
1.11.100	£		Q9BDP7	096KJ0	O96L82	095NE5	090x39	088911	6ZdS80	08HY70	095LQ4	091ZE1	070123	Q9MZB1	077643	Q8SPL5	09GK00;	OBLBUS
	. 6	:	9	4	4	9	11	11	9	9	9	11	11	9	9	9	9	10
	% Query Match Length DB		126	191	191	191	190	110	124	184	189	190	141	118	190	128	124	. 294
	% Query Match		80.0	80.0	0.08	80.0	77.3	65.5	65.5	65.5	65.5	65.5	64.5	62.7	62.7	58.2	57.3	45.0
	Score		88	88	88	88	85	72	72	. 72	72	72	71	69	69	64	63	49.5
	Result		H	7	۳.	4	S	9	7	œ	თ	10	11	12	13	14	15	16

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. 17	49.5	45.0	310	10	09LTB9			091tb9 arabidopsis
18	48	43.6	229	16	Q8XXT3			Q8xxt3 ralstonia s
19	47.	42.7	1479	Ŋ	OBIERG			O8ier6 plasmodium
20	46.5	42.3	66	0	3 Q8H2W1		•	_
. 21	46	41.8	202	7	027168			
22	45.	40.9	189	10	63нх60			Q9xhy9 oryza sativ
23	45	40.9	222	16	Q8PJ26	•		
24	45	40.9	222	16	. Q8P7R6			Q8p7r6 xanthomonas
25	45	40.9	286	10	920180			
26	45	40.9	. 355					Q8xpk3 ralstonia s
27	45	40.9	450	10	080816			
28	4.5	40.9	633	17	08TR73			
. 29	44:5	40.5	1328	S	Q8IDY9			Q8idy9 plasmodium
30	44	40.0	142	7	Q9AG90			09ag90 bdellovibri
31	44	40.0	142	11	Q9ERL6			
32	44	40.0	163	2	<b>Q8H1E0</b>			
33	44	40.0	254	12	090199			Q90199 heliothis z
34	44	40.0	694	10	Q8S9T4			
35	44		.96/	16	Q926P8			
36	43.5	39.5	445	10	Q9M1Y5			
37	43.5		481	17	09UWX2			
38	43.5	39.5	555	13	090874			.090874.gallus gall
. 68.	4.3		108	9	Q8HY75			О
40	43		123	1	QBBGGB			Q8bgg8 mus musculu
41	4.3	39.1	. 269	10	049742			049742 arabidopsis
42	43		291	10	081063			Q81q63 oryza sativ
43.	43	39.1	436	~	Q8GMG7			Q8gmg7 streptomyce
44	43.	39.1.	485	16	08квв3	:		Q8kbb3 chlorobium
45	43	39.1	541	12	<b>09EMJ0</b>			Q9emj0 amsacta moo
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RESU	RESULT 1	
<b>09B</b> E	Q9BDP7	
ID	O 09BDP7 PRELIMINARY; PRT;	126 AA.
AC	09BDP7;	
DI	r 01-JUN-2001 (TrEMBLrel. 17, Created)	
E	<pre>r 01-JUN-2001 (TrEMBLrel. 17, Last sequence update)</pre>	ince update)
DT	r 01-MAR-2003 (TrEMBLrel. 23, Last annotation update)	ation update)
DE	3 Vascular endothelial growth factor (Fragment).	agment).
SO	S Macaca mulatta (Rhesus macaque).	
8	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;	; Vertebrata; Euteleostomi;
8	Mammalia, Eutheria, Primates, Catarrhini, Cercopithecidae,	.ni; Cercopithecidae;
ဗ	Cercopithecinae; Macaca.	
ŏ	K NCBI_TaxID=9544;	
RN	Z [1]	
RP	SEQUENCE FROM N.A.	
КA	A Hazzard T.M., Nayak N.R., Jia Y., Stouffer R.L.;	iffer R.L.;
RŢ	"Rhesus macaque VEGF mRNA sequence.";	
RL	Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases	nk/DDBJ databases.
DR	EMBL; AF339737; AAK26379.1;	
DR	RSSP; P49763; 1FZV.	
DR	InterPro; IPR000072; PD_growth_factor.	
DR.	_	

DR DR DR FT SO

.; 0 Query Match 80.0%; Score 88; DB 6; Length 126; Best Local Similarity 80.0%; Pred. No. 1.7e-06; Matches 16; Conservative 1; Mismatches 3; Indels

126 AA; 14599 MW; 1175F2386A883BCF CRC64;

; 0

Gaps

ò qq

RESULT 2 Q96KJ0

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Shina D.T., Gougos A., Miller J.W., Tolentino M., Robinson G., Adamis A.P., D'Amore P.A.; "Cloning and mRNA expression of vascular endothelial growth factor in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Spalacinae;
                                                                                                                                                                                                            Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE-99313148; PubMed-10386577;
Avivi A., Resnick M.B., Nevo E., Joel A., Levy A.P.;
**Adaptive hypoxic tolerance in the subterranean mole rat Spalax ehrenberg: the role of vascular endothelial growth factor.";
**FEBS Lett. 452:133-140(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCE57097DD3779BD CRC64;
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                                                                                                                     Last sequence update)
Last annotation update)
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Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ischemic retinas of Macaca fascicularis,";
Invest. Ophthalmol. Vis. Sci., 37:1334-1340(1996)
EMBL. S82167, AAR47118.1;
InterPro, IPRO00072; PD_growth_factor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         80.0%; Score 88; DB 6; 1
80.0%; Pred. No. 2.5e-06;
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7.6e-06;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Probom; PD001629; PD_growth_factor; 1.
PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ProDom; PD001629; PD_growth_factor; 1.
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                                                                                            Created)
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                                          · PRT;
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                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE-96245208; PubMed-8641836;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 HHEVVKFEDVLRRSSCHPIE 20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22314 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-MAY-2000 (TrEMBLrel. 13, 01-MAY-2000 (TrEMBLrel. 13, 01-MAY-2003 (TrEMBLrel. 23,
                                                                                                             (TrEMBLrel. 19, (TrEMBLrel. 22,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; AF186236; AAD56245.1;
HSSP; P49763; 1FZV.
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                                               PRELIMINARY;
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les 16; Conserv
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9541;
                                                                                                                  01-DEC-2001
01-OCT-2002
                                                                                            01-DEC-2001
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                                          Q95NE5
Q95NE5;
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090x39
RESULT 4
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                                                                                                                                                                                                                                                                                                                            Sugiono M., Winkler M., Gillatt D., Harper S.J., Bates D.O.;
"A new isoform of vascular endothelial growth factor mRNA is down-regulated in renal tumors.";
(In) Unknown A. (eds.);
                                                                                                                                                                                                                                                                                                                                                                                                                             Proceedings of the 7th World Congress on Microcirculation, pp.3-3, Sydney, Australia (2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                     Eukaryota; Metazoa, Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalla; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Liu J., Peng X., Yuan J., Qiang B.;
"Cloning of Vascular endothelial growth factor (VEGF) CDNA."
Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
EMBL: AY047581. AAK95847.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              80.0%; Score 88; DB 4; Length 191; 80.0%; Pred. No. 2.5e-06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 191
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PROSITE; PS50278; PDGF_2; 1.
SEQUENCE 191 AA; 22258 MW; D25243E540AC79BD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22314 MW; CCE57097DD3779BD CRC64;
                                                           01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Vascular endothelial growth factor 165b.
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Last annotation update)
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Pred. No. 2.5e-06;
                   191 AA.
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PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
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InterPro; IPR000072; PD_growth_factor
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                      PRT;
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80.0%;
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les 16; Conservative
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                   PRELIMINARY;
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                                                                                                                                                            Homo sapiens (Human)
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Matches 16; Conserv
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                                                                                                                                                                                                                                     NCBI_TaxID=9606;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
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**096182** 

ò g

RESULT 3 096L82

Matches.

ò g

Length 191;

Gaps

Matches

ò g 088911

RESULT 6 088911

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SEQUENCE FROM N.A.
Koga L., Kobayashi Y., Yazawa M., Masuda K., Ohno K., Tsujimoto H.;
"Nucleotide sequence and expression of the feline vascular endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.

Lopes F.L., Demarais J.A., Gevry N.Y., Ledoux S., Murphy B.D.;

Lopes F.L., Demarais J.A., Gevry N.Y., Ledoux S., Murphy B.D.;

Expression of VEGF isoforms and receptors during implantation in

Mustela vison...'

Submitted (OCT.-2002) to the EMBL/GenBank/DDBJ databases.

EMBL; AX158156; AAN76365.1;

NON_TER 184 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mustela vison (American mink).
Eukaryota: Metazoa; Chordața; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Mustelidae; Mustelinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-MR-2003 (TrEMBLrel. 23, Last annotation update)
vascular endothalial growth factor.
Felis silvestris catus (Cat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                65.5%; Score 72; DB 6; Length 184; 73.7%; Pred. No. 0.00094;
                                                                                                                                                                        Length 124
                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (SEP-2001) to the EMBL/GenBank/DDBJ databases. EMBL, $48071947; BAB68520.1; -. InterPro; IPR000072; PD_growth_factor. Pf001341; PDGF; 1.
                                                                                                                       2E1C1A009E67C9C9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    184 AA; 21608 MW; BAD47CCB0C146F22 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Vascular endothelial growth factor A (Fragment).
                                                                                                                                                              65.5%; Score 72; DB 6; 73.7%; Pred. No. 0.00064; ive (1; Mismatches 4
                                                                                                                                                                                                                                                                                                                                                                                                                                 184 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              189 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1; Mismatches
    ProDom; PD001629; PD_growth_factor; 1.
SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ProDom; PD001629; PD_growth_factor; 1
SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-MAR-2003 (TrEMBLrel. 23; Created)
01-MAR-2003 (TrEMBLrel. 23, Last seq
01-MAR-2003 (TrEMBLrel. 23; Last ann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     37 HEVVKEMDVYQRSYCRPIE 55
                                                                                                                                                                                                                                                                                        9 HEVVKFMDVYQRSYCRPIE 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 HEVVKFEDVLRRSSCHPIE 20
                                                                                                                                                                                                                                                                2 HEVVKFEDVLRRSSCHPIE 20
                                                                                                                       124 AA; 14552 MW;
                                                PROSITE; PS00249; PDGF_1; 1. PROSITE; PS50278; PDGF_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PROSITE; PS00249; PDGF_1; DROSITE; PS50278; PDGF_2; D
                                                                                                                                                                                            Best Local Similarity 73.74
Matches 14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
ses 14; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=9667;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rowth factor.
                                                                                               NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mustela.
                                                                                                                                                                                                                                                                                                                                                                                                                          Q8HY70
Q8HY70;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q95LQ4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                RESULT 8
Q8HY70
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       SO FT SO
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE-99115228; PubMed-9916007;
Burchardt M., Burchardt T., Chen M.W., Shabsigh A., de la Taille A.,
Buttyan R., Shabsigh R.;
Expression of messemper ribonucleic acid splice variants for vascular endothelial growth factor in the penis of adult rats and humans.";
Biol. Reprod. 60:398-404(1999).
EMBL; AF080594; AAC36708.1;
                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The expression of VEGF in porcine collateral-dependent myocardial by
    0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 72; DB 11; Length 110;
Pred. No. 0.00057;
1; Mismatches 4; Indels
Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases EMBL; AF461807; AAL82286.1; -InterPro: IFP00072; PD_growth_factor. PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE 110 AA; 12713 MW; B81B79AC08D89F06 CRC64;
                                                                                                                                                                                                                                                                                 01-NOV-1998 (TrEMBLrel. 08, Last sequence update) 01-MAR-2003 (TrEMBLrel. 23, Last annotation update) Mascular endothelial growth factor A 110 (Fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-JUN-2002 (TrEMBLrel. 21, Created)
01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
01-OCT-2002 (TrEMBLrel. 22, Last annotation update)
Vascular endothelial growth factor, (Fragment).
                                                                                                                                                                                                                  110 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             124 AA.
  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nterpro; IPR002400; GF_cysknot.
nterpro; IPR000072; PD_growth_factor.
fam; PF00341; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; PR00438; GFCYSKNOT.
; PD001629; PD_growth_factor; 1.
SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN=Sprague-Dawley; TISSUE=Penis;
                                                                                                                                                                                                                                                             Created)
                                                                                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HEVVKFMDVYQRSYCRPIE 29
                                         2 HEVVKFEDVLRRSSCHPIE 20
                                                                      2 HEVVKFEDVLRRSSCHPIE 20
  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ROSITE; PS00249; PDGF_1; 1. PROSITE; PS50278; PDGF_2; 1.
                                                                                                                                                                                                                                                           01-NOV-1998 (TrEMBLrel. 08, 01-NOV-1998 (TrEMBLrel. 08,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14; Conservative
16; Conservative
                                                                                                                                                                                                               PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                              Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
Matches 14; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      exercise training.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ISSUE-Myocardium;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sus scrofa (Pig).
                                                                                                                                                                                                                                                                                                                                                                                                                                                WCBI_TaxID=10116;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRINTS;
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RESULT 10 Q912E1

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TISSUE=Placental artery endothelium;
Zheng J., Tsoi S.C., Magness R.R.;
"Growth factor expression in ovine fetal placental artery endothelial
               Sugihara T., Wadhwa R., Kaul.S.C., Mitsui Y.;
"A novel alternatively spliced form of murine vascular endothelial growth factor, VEGF 115.";
"D Biol. Chem. 273:3033-3038(1998).
EMBL, U50279; AAC05442.1;
HSSP; P49763; 1FZV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ovis aries (Sheep).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Caprinae; Ovis.
                                                                                                                                                                                                                                                                                                                                              Length 141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               62.7%; Score 69; DB 6; Length 118; 68.4%; Pred. No. 0.0019; ive $2; Mismatches 4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NON_TER 1 1 1 SEQUENCE 118 AA; 13931 MW; 757DC53AA56378A6 CRC64;
                                                                                                                                                                                                                                                                                                A27C4EF5A7071338 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Vascular endothelial growth factor (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-NOV-1998 (TrEMBLrel. 08, "Created)
01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
                                                                                                                                                                                                                                                                                                                                          64.5%; Score 71; DB 11;
68.4%; Pred. No. 0.0011;
iive 2; Mismatches 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 118 AA.
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Probom; PD001629; PD_growth_factor; 1.
                                                                                                                                                                      InterPro; IPR000072; PD_growth_factor Pfam; PF00341; PDGF; 1.
                                                                                                                                                                                                                 ProDom; PD001629; PD_growth_factor; 1.
  MEDLINE=98112857; PubMed=9446618;
                                                                                                                                                                                                                                                                                                                                                                                                                             2 HEVVKFEDVLRRSSCHPIE 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                |||:|| || :|| || || 37 HEVIKFMDVYQRSYCRPIE 55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 HEVVKFEDVLRRSSCHPIE 20
                                                                                                                                                                                                                                              PROSITE; PS50249; PDGF_1; 1. PROSITE; PS50278; PDGF_2; 1. SEQUENCE 141 AA; 15550 MW)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PROSITE; PS00249; PDGF_1; 1
PROSITE; PS50278; PDGF_2; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity 68.4
Matches 13; Conservative
                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                MGD; MGI:103178; Vegfa.
                                                                                                                                                                                                                                       SM00141; PDGF;
                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PDGF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=9940;
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077643
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN-Sprague-Dawley;
Marion S., Lee T.-C.;
"Cloning of multiple VEGF splice variants from hypoxic neonatal rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sugihara T., Kaul S.C., Mitsui Y., Wadhwa R.; "Enhanced expression of multiple forms of VECF is associated with spontaneous immortalization of murine fibroblasts."; Biochim. Biophys. Acta 1224:365-370(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 72; DB 11; Length 190;
Pred. No. 0.00097;
1; Mismatches 4; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases.
EMBL, AR033506; AAL07526.1; -
InterPro: IPR0000072; PD_growth_factor.
Pfam: PF00041; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SMART; SM00141; PDGF; 1.
PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
SEQUENCE 190 AA; 22396 MW; 589374010441F377 CRC64;
22193 MW; C1E4646759AB3FD6 CRC64;
                                                                                                                                                                                                                                                                                                                                       Last sequence update)
Last annotation update)
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Last annotation update)
                                     Score 72; DB 6; I
Pred. No. 0.00096;
1; Mismatches 4;
                                                                                                                                                                                                                                                                        190 AA.
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                                                                                                                                                                                                                                                                                                                  Created)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              . PRT;
                                                                                                                                                                                                                                                                                                                                                                             Vascular endothelial growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=95101726; PubMed=7803491;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    111111 11 :11 1 1111 37 HEVVKFMDVYQRSYCRPIE 55
                                                                                                                                              111111 | 1 : 1 | 1 | 1 | 37 HEVVKFMDVYQRSYCRPIE 55
                                                                                                                        2 HEVVKFEDVLRRSSCHPİE 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 HEVVKFEDVLRRSSCHPIE 20
                                       Query Match 65.5%;
Best Local Similarity 73.7%;
Matches 14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 65.5%;
Best Local Similarity 73.7%;
Matches 14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-AUG-1998 (TrEMBLrel. 07, 01-AUG-1998 (TrEMBLrel. 07, 01-MAR-2003 (TrEMBLrel. 23,
                                                                                                                                                                                                                                                                                            0912E1;
01-DEC-2001 (TrEMBLrel. 19,
01-DEC-2001 (TrEMBLrel. 19,
01-MAR-2003 (TrEMBLrel. 23,
                                                                                                                                                                                                                                                                        PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                        Rattus norvegicus (Rat)
189 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cardiomyocytes."
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SEQUENCE
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RESULT 11 070123

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Search completed: July 24, 2003, 14:47:28
Job time : 40.2941 secs
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                                                                                                                                STRAIN-Columbia-Ramboulliet;
Cheung C.Y., Brace R.A.;
Coulous c.Y., Brace R.A.;
Ovine vascular endothelial growth factor: Nucleotide sequence and expression in fetal tissues.;
Growth Factors 0:0-0(1998).
EMBL; AF071015, AAC33608.1;
HSSP: P49763; 1F2V.
InterPro; 1PR000072; PD_growth_factor.
Probom; P0001629; PD_growth_factor.
Probom; P0001629; PD_growth_factor; 1.
SWART; SW00141; PDGF: 1.
       Ovis aries (Sheep).

Bukaryota: Metazoa; Chordata; Craniata; Vertebrata; Butèleostomi;

Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;

Bovidae; Caprinae; Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Equus caballus (Horse).
Eukaryota: Metazoa; Chordata; Craniata: Vertebrata; Euteleostomi;
Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 64; DB 6; Length 128;
Pred. No. 0.013;
1; Mismatches 4; Indels
                                                                                                                                                                                                                                                                                                                                                                 Score 69; DB 6; Length 190;
Pred. No. 0.003;
2; Mismatches 4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Welter H., Bollwein H., Einspanier R.;
"Expression of horse endometrium.";
Submitted (MAR-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; A413987; CAD29178.1;
InterPro: IPR000072; PD_growth_factor.
Pfam; PF00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                      PROSITE; PS00249; PDGF_1; 1.
PROSITE; PS50278; PDGF_2; 1.
SEQUENCE 190 AA; 22342 MW; 0D5E3B3E5C53E739 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        14943 MW; 64EFA5DB550FC638 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-JUN-2002 (TrEMBLrel. 21, Last sequence update) 01-OCT-2002 (TrEMBLrel. 22, Last annotation update) Vascular endothelial growth factor (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ProDom; PD001629; PD_growth_factor; 1
SMART; SM00141; PDGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
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Vascular endothelial growth factor
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EVVKFEDVLRRSSCHPIE 20
                                                                                                                                                                                                                                                                                                                                                                    68.48;
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Best Local Similarity 72.2%;
Matches 13; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PS00249; PDGF_1; 1. PROSITE; PS50278; PDGF_2; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                13; Conservative
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SEQUENCE 128 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ISSUE=Endometrium;
                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EQUENCE FROM N.A.
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RESULT 15

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Mammalia; Eutheria; Primates; Platyrrhini; Callitrichidae; Callithrix
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 124;
                                                                                                                                                                                                                                                                                                                                                    Welter H., Gabler C., Einspanier R.;
"growth factor expression in marmoset monkey oviducts.";
Submitted (MAY-2000) to the EMBL/GenBank/DDBJ databases.
BRBE, AJ278192; CAC19923.1;
HSSP; P49763; 1FZV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           124 AA; 14548 MW; AA6F8CAFFCF0A0CC CRC64;
                                             01-MAR-2001 (TrEMBLrel. 16, Created)
WAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Vascular endothelial growth factor (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           57.3%; Score 63; DB 6; 75.0%; Pred. No. 0.018; tive 1; Mismatches
124 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PD001629; PD_growth_factor; 1. SM00141; PDGF; 1.
                                                                                                                                                                          Callithrix jacchus (Common marmoset).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IPR000072; PD_growth_factor
PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5 .VKFEDVLRRSSCHPIE 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-MAR-2001 (TrEMBLrel. 16, 01-MAR-2001 (TrEMBLrel. 16, 01-MAR-2003 (TrEMBLrel. 23,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ROSITE; PS00249; PDGF_1; 1. ROSITE; PS50278; PDGF_2; 1
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PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              fam; PF00341; PDGF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity
Matches 12; Conserv
                                                                                                                                                                                                                                                                                               EQUENCE FROM N.A.
                                                                                                                                                                                                                                                 NCBI_TaxID=9483;
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